

**STRATHCLYDE BUSINESS SCHOOL
DEPARTMENT OF MARKETING**

**UNDERSTANDING MUSLIM
CONSUMERS' ACCEPTANCE OF
SELF-SERVICE TECHNOLOGIES**

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(B.Sc, MBA, PGD)

**A thesis submitted for the fulfilment of requirement for award of Doctor of
Philosophy degree in Marketing**

2014

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CERTIFICATION

This is to certify that the research project reported in this thesis was originally conducted by BADREA SALEH AL ORAINI under our supervision and has been read and adjudged to contain original writings of the student; that all citations and references in the thesis have been duly acknowledged; and that the thesis meets the required standard for consideration as part of the requirements for the award of Doctor of Philosophy (PhD) degree in Marketing in the Department of Marketing, Strathclyde Business School, University of Strathclyde, Glasgow, United Kingdom.

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ABSTRACT

Most individual technology acceptance models are based on the technology acceptance model (TAM), or the conceptualisation of TAM. Even though many researchers consider TAM to be a good model for predicting individual technology acceptance because it has good explanatory power across the population, context and time, and has a parsimonious structure, it has been criticised by several researchers. TAM has been criticised for what is called inherent ‘cultural bias’. This ‘cultural bias’ is responsible for limiting the generalisability of TAM across cultures (from national to organisational levels).

Therefore, in this thesis TAM has been extended to suit a developing country context. Numbers of variables related cultural aspects were added to the model to enhance its ability to predict consumers’ technology acceptance, given their religious values and social influences. Results of the extended model are satisfying, as the proposed model was able to explain 56 percent of Muslim consumers’ behavioural intentions compared to the original TAM, which was able to predict only 39 percent of their intentions.

This thesis reports the findings related to the issues concerning the acceptance of Internet-only banking in one of the conservative Islamic countries, namely Saudi Arabia. Although the study was conducted at a specific site on a particular technology application, there is a justification for claiming that the findings are pertinent to the introduction of a wide range of Internet applications into other Islamic countries. Therefore the study makes a significant contribution to research across all areas of information technology adoption and to this practice in financial services.

The thesis starts with an exploratory study involving some semi-structured interviews with religious scholars, in-depth interviews with bank consumers and a literature review in this study area. This led to the decision to base the study on integrating three of the

recognisable models in technology acceptance. The models are TAM, innovation diffusion theory (IDT) and the theory of reasoned action (TRA), with extensions to enhance their predictability. The extension included religiosity, previous experience in technologies, human values, awareness, need for human interaction, perceptions of risk and trust.

A mixed method approach was undertaken. An extensive empirical survey was undertaken to collect data. Structural equation modelling (SEM) was the analysis technique used to test the hypothesis in the quantitative study. At the same time, interviews were conducted as a part of the qualitative study with the aim of gaining an in-depth understanding of the factors that may enhance or hinder Internet banks in Islamic countries. The qualitative data was processed using thematic data analysis. The results of both the qualitative and quantitative studies are discussed in terms of their academic and practical contributions.

DEDICATION

To the spirit of my beloved mother

Hea Batel Al Harbi

who endured hardships to see me become what I am today;

To my soul mate – my dear sister–

Amena,

who was, and still is the candle that lights up my life;

To my beloved son,

Saif

ACKNOWLEDGEMENTS

First of all I would like to say thanks to God (Allah the Almighty) for giving me the strength and power to carry on through this project.

Second, many thanks to my beloved mother; may Allah (swt) rest her soul in heaven (Amin). My mother, I remember your words just weeks after you had been diagnosed with last stage hepatitis cancer. I told you of my decision to quit my scholarship and stay with you. You told me that my PhD is not only my dream, it is yours too and I should not quit. A month later you died, leaving me with the insistence to carry on with my PhD and do my best to make you proud of me.

As Abu-Hurayrah narrated, The Prophet (peace_be_upon_him) said, “He who does not thank Allah does not thank people” (*Book 41, Number 4793*).

I would like to thank all of the people who were beside me throughout this hard journey, starting with my first supervisor, Dr Stephen Tagg. I feel fortunate and proud to have been one of his students and work under his auspicious supervision. I would like to thank him for his support, insightful suggestions, constructive criticisms and endless patience toward the end. Without him, I would not have been able to accomplish this project. I also extend my gratitude to my second supervisor, Dr Kathy Hamilton, for her valuable time, guidance and support. The advice, knowledge and experience of my supervisors enabled me put the pieces of this thesis together.

I am also indebted to all of the members of the academic staff in the Department of Marketing during the thesis committees that I attended for their generous support, invaluable guidance, excellent remarks and comments. I have benefitted immensely from their assistance in shaping and completing this study.

My special thanks also go to all of the professional staff of the University of Strathclyde Library and IT Services for their excellent and individual services. I owe

special thanks to the computer staff in the Department of Marketing, Alistair and Andy, for providing me with the IT assistance I needed during the period of my study.

Many thanks to my soul mate, my sister Amena, for believing in me, and supporting and encouraging me. My beloved sister, you are the candle that guided me in this journey. I could not imagine my life without you by my side.

My sincere gratitude goes to Dr Khalid Al Marshadi, Dr Fahad Al-Olayan and Dr Abraham Al Thonayan for their support and advice. I would also like to thank Fatat Al Badyah charitable organisation and Al Badyah Educational Guidance Office for their support in the data collection.

Special appreciation goes to the Government of Saudi Arabia and the Qassim University for facilitating financial support throughout my doctoral study in UK. Many thanks go to the Saudi Cultural Bureau in London for their help and support during my study.

Finally, my gratitude is for all those who helped in collecting the data, and to the people who agreed to take part in the research.

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ACRONYMS

AC	Achievement
ATM	Automated teller machine
ATT	Attitude
AVE	Average variance extracted
AWR	Awareness
BE	Benevolence
BI	Behavioural intention
CO	Conformity
COM	Compatibility
CR	Composite reliability
EXP	Previous technological experience
GOF	Goodness of fit
HD	Hedonism
HUMAN	Need for human interaction
HV	Human value
IB	Internet banking
IDT	Innovation diffusion theory
INNV	Personal innovativeness
BI	Behavioural intention
IS	Information system
IT	Information technology
LISTEN	Willingness to accept religious leaders advice
LOV	List of value
MRPI	Muslim religiosity-personality inventory
PBC	Perceived behavioural control
PEOU	Perceived ease of use
PLS	Partial least squares
PO	Power
PU	Perceived usefulness
PRODUCT	The importance Muslim consumers give to obtaining Islamic banking through Internet only banks
REL	Personal religiosity
RISK	Perceived risk
ROS	Religious orientation scale
RVS	Rokeach value system
SAMA	Saudi Arabia monetary agency
SD	Self-direction
SEC	Security
SEM	Structural equation modeling

SN	Subjective norm
SOCIAL	Social influence
SST	Self-service technology
ST	Stimulation
SVS	Schwartz value scale
TAM	Technology acceptance model
TPB	Theory of planned behaviour
TR	Tradition
TRA	Theory of reasoned action
TRIL	Trialability
TRUST	Perceived trust
UN	Universalism
UTAUT	Unified theory of acceptance and use of technology
OBS	Observability

Chapter one: Introduction

This chapter presents the theoretical research background and rationale for the study. It also introduces the reader to the research objectives and questions, a brief review of the research methodology and subsequently, the structure of the thesis.

1.1 Introduction to the chapter

Banking services have developed throughout the last three decades, both in terms of available banking services and channels of delivery. Banking service providers are increasing their e-delivery channels, including the Internet, Automated teller machines (ATM), and mobile and phone banking. Various conventional, ethical, or religious banking services are now available to consumers.

Some changes in consumers' behaviour patterns have occurred because of their increased mobility from one country to another. Moreover, globalisation influences people in different aspects of life and develops a new type of culture referred to as 'global culture' (Currie, 2000).

People differ in their acceptance and adoption of new products, services and ideas. Researchers have investigated the factors which might influence acceptance and adoption (Ajzen, 1985; Fishbein & Ajzen, 1975b; Ajzen, 1991). These studies concentrate on consumer behaviour toward products and services in general. But technology-based products and services have different features that may influence consumers' acceptance of them. Therefore, several researchers have engaged in the study of consumer acceptance of new technology (Davis, 1989; Roger, 1983; Davis et al., 1989; Davide, 2008). These studies have contributed to an understanding of consumers' perception and attitudes to, and the process of consumers' acceptance of, technology-based products and services. Still, there is a need for a greater understanding of consumer behaviour. Several studies have been conducted, including using additional variables as a way to expand our understanding of consumers' behaviour in adopting

technology. One extension of the consumer behaviour prediction model has been the addition of culture. Most of the studies investigating cultural influence on information technology (IT) acceptance concluded that it has significant influence on consumers' adoption behaviour (Abdul Gader, 1999; Torkzadeh & Doll, 1999; Straub et al., 2001; Loch et al., 2003). 'Culture' includes different sub-variables such as values, religion, education, and customs. Culture is regarded as a dynamic variable and it is one of the most difficult variables to measure, especially when we know that it differs from one country to another, and that even in the same country there exist different sub-cultures. Therefore, it would be more useful to 'unpack' the concept of culture to enhance the understanding of its influence on consumers' behaviour.

This study examines the ways in which culture influences, either directly and/or indirectly, a consumer's acceptance of technology-based banking services. It investigates the effect of religion and values on the intention, attitudes and perceptions of technologies such as Internet-only banks. The findings of this study further contribute to our understanding by providing a fine-grained analysis of how religion and values can influence consumer attitudes and behaviour. This study also contributes to the knowledge of innovation and technology adoption by investigating how the absence of social interaction may influence consumer adoption of new banking technologies. It also benefits the implementation of e-banking, and the work of partners and consultants in the banking sector.

1.2 **Research background**

Technologies are playing an important role in reshaping the design, delivery and even the pricing of products and services. Consumers are moving toward the use of technology and seeking advanced ways to fulfil their needs and desires. Researchers have suggested that traditional market place interactions have been replaced by the online market place. Rayport and Sviokla (1995: 14) define an online market place as a *“virtual realm where products and services exist as digital information and can be*

delivered through an information based channel". This development in the nature of the market has inspired academics to emphasise the importance of reflecting these advances in their works; Bowen (1986) stated that academic workers recognise the critical importance of technology as a service delivery channel.

Innovative banking and convenience services have an important role to play in building competitive competence for the banks. In a study conducted by J.D. Power & Associates (2007), it was found that the highest-ranked banks are differentiated from their competitors by convenient and innovative banking services. In the study, customers stated that "*convenience in terms of location and hours and no-fee banking*" are important reasons for choosing one bank over all the others. Many banks are currently implementing online banking. Banks that offer services via this channel believe that it reduces costs and increases their competitiveness.

Internet banking can be considered as a costless banking delivery channel compared to alternative banking channels. According to Arnaboldi and Claeys (2008), an average payment transaction on the Internet costs US\$0.01, compared to US\$0.027 for ATM banking, US\$0.54 for phone banking and US\$1.07 for branch banking. It should be noted that there are three types of strategies for implementing Internet banking. These strategies, along with the example of established traditional and online banks in four EU countries providing Internet banking (IB), are presented in table (1-1). The idea of pure-play Internet banks is not rejected by consumers, and Clark and Geun Lee (1998) state that after only 8 weeks of the opening of the first Internet bank (SFNB), which is the first established pure-play Internet bank, 1000 online chequing accounts had been opened; and by the end of the first year of its operation the bank had US\$41 billion in assets with Internet customers from 50 US states.

Banks have adopted IB as they realise its advantages. However, they should be aware that these advantages could not be obtained unless customers are willing to use IB. Therefore, it is important for them to consider investigating the factors that motivate

or restrict consumers' adoption of IB. This study examines factors that influence the adoption of Internet-only banks. Because this form of banking is using the Internet as a platform to provide banking services to consumers, it relies on the penetration of the Internet. Even though statistics show a dramatic rise in global Internet usage in the period 2000–2011, statistics indicate that Internet penetration in developed countries is high (see appendix E-1). In contrast, Internet penetration in most Islamic countries is low. The average use of the Internet in Islamic countries is 20.50 percent, which is much less than the world average of 32.70 percent. Moreover, appendix E-1 indicates that there are differences in Internet penetration among Islamic countries.

Table (1-1). Traditional and online banks in four EU countries

	Spain	Finland	Italy	UK
Stand-alone Internet banks		eQbank		
Pure Internet banks (in group)	Caixa Catalunya (Banco de Europa) BBV A (Uno e-bank) BSCH (Open Bank)	Nordea (Luottokunta)	Unicredit (Xelion) MPS (Banca 121) Capitalia (Fineco) BPU (Banca Akros, IW Bank) BPM (Webank) Gruppo Ras (Rasbank)	HBOS (Capital Bank) Cooperative (Smile) RBS (Coutts) Prudential (Egg) Standard Life (Standard Life)
Mixed banks/banking groups	CajaAhorro Ibercaja Pastor Bancaja Popular Sabadell BBV A La Caixa Caja de Ahorros del Mediterraneo CajaMadrid	OP Cooperative OKO Sampo Alandsbanken	Unicredit Intesa Monte dei Paschi San Paolo Sella	Barclays Bradford & Bingley Alliance & Leicester Bank of Scotland Halifax HSBC Lloyds TSB NatWest Northern Rock Scottish Widows Abbey National Ulster HFC Cheltenham AMC
Source: Arnaboldi and Claeys (2008)				

In addition, a study of 200 countries indicated that there are 1.57 billion Muslims of all ages living in the world today; they represent 23 percent of an estimated 2009 world population of 6.8 billion. By 2030 the global population is estimated to reach 8 billion, and 26.4 percent of that population will be Muslim (Pewforum, 2011), but Internet usage within Islamic countries represents only 12 percent of global Internet use. According to Global Industry Analysts (GIA) (cited by PRWEB, 2010), the estimated global Internet-only banks customers will reach 657.2 million by the year 2015. The United States of America (USA) and United Kingdom (UK) represent the largest portion of IB service users around the world. Moreover, the report indicated that the USA, Europe and the Asian Pacific region dominate the global Internet banking market as they accounted for more than 80 percent of IB customers worldwide (PRWEB, 2010). This means that the rest of the world, including the Middle East and Africa along with other countries, account for less than 20 percent of the world's IB use. Even though there are no updated statistics on IB users in Islamic countries, it could be inferred from the above statistics that IB use in most Islamic countries is less than it is in developed countries. This is because most Islamic countries are located in the Middle East and Africa, and as already mentioned, those two locations represent less than 20 percent of world IB use. Second, Internet statistics (see appendix E-1) indicate that Internet use in most of the Islamic countries lagged behind Internet use in the rest of the world. This indicates that there are barriers that contribute to the low Internet and IB diffusion in Islamic countries. But, one should be aware that the use of technologies is common in Islamic countries. Such technology is used in Muslim communities to help in different aspects of life, whether at home where almost all Muslim families have television, broadband, mobiles, and so on or in mosques where Muslims are using it to broadcast prayers. For example, Muslim holy mosques in Mecca and in Madinah provide television broadcasts of the five prayers, and both mosques have their own websites. Moreover, most mosques around the world have their own websites where they provide information about activities that will take place, prayer times, and religious advice and so on. The Internet has also been used by Islamic communities to spread knowledge about different aspects of life and give advice to Muslim communities around the world. The use of the technology in

financial services is not new to the Islamic world. ATMs and other technology-based services have long been introduced and accepted in Muslim countries.

1.3 Rationale of the current research

Despite the significant investments in IT and its importance in our lives, there are still a number of projects reported as failures. According to Landauer (1996), in the United States nearly half of IT systems are underused or have not been used at all. Realising the impact of individual cognitive behaviour in ensuring IT's successful introduction and adoption, several intention-based theoretical models have been proposed to predict cognitive acceptance behaviour. In this line of research (Davis et al., 1989) the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the technology acceptance model (TAM) (Davis, 1989; the theory of planned behaviour (TPB) (Ajzen, 1991), the innovation diffusion theory (IDT) (Rogers, 1975), TAM2 (Venkatesh & Davis, 2000), the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003), and the TAM3 (Venkatesh & Bala, 2008), are notable theoretical models. From these models, TAM has emerged as a robust theoretical model because of its acceptable explanatory fit and parsimonious structure (Venkatesh & Bala, 2008). The TAM proposes that behavioural beliefs, perceived usefulness (PU) and perceived ease of use (PEOU) affect behavioural intention (BI) and usage behaviour (BU) (Davis, 1989; Davis et al., 1989). Although TAM has been used by several studies (e.g., Shih & Fang, 2004; Alsajjan & Dennis, 2010) to predict consumers' IB behaviour, TAM is not free from limitations. Extensive replications of TAM and its extensions suggest various limitations (e.g., Venkatesh and Morris, 2000; Venkatesh et al., 2007), one of which is cultural bias (Straub et al., 1997; Bagozzi, 2007). Most of the studies based on the TAM or its conceptualisations were conducted in Western European countries and North America; this limits the reliability and the generalisability of TAM or its conceptualisations across different cultures although some studies using TAM or its conceptualisations were conducted outside the U.S., for example: IB (Shih & Fang, 2004; Alsajjan & Dennis, 2010), e-commerce and e-service (Pavlou & Chai, 2002; Choi & Geistfield, 2004;

Jarvenpaa & Leidner, 1999) and broadband Internet use and adoption (Oh et al., 2003; Choudrie & Lee, 2004; Khoubati et al., 2007). However, TAM remains ineffective as a means of examining the effect of external factors in establishing technology acceptance intentions. TAM assumes that external variables only affect intentions through the mediated impact of PU and perceived ease of use (PEOU) (Davis et al., 1989); it neglects the direct or indirect links between external beliefs and behavioural intentions. TAM, like many of the technology acceptance models, ignores the group influence by assuming that technology usage is solely an individual decision. For instance the UTAUT tries to overcome this shortest of TAMs, but it ends with a very complex model that includes 41 independent constructs to predict intentions and at least eight independent constructs to predict behaviour (Bagozzi, 2007). Yet the UTAUT fails to explain the role of cultural variables in technology acceptance.

To overcome the limitations of each model, TRA, IDT and TAM were integrated; in some instances the integrated model has been extended by adding additional variables such as perceived risk in order to predict individuals' adoption of technology in different fields of studies. Most of the studies conducted in the context of information technologies in the past depended on studying the single user working with a standard software application and using a personal computer within a private work situation. In contrast, future information technologies (IT) will be designed to continuously support users in technology-enhanced environments by providing a variety of personal and context-adapted services throughout the day. Future technologies "*will vary significantly regarding their degree of autonomy*" (Röcker, 2010, p.5). Thus, factors that were used to predict technology adoption for the last 30 years may not be appropriate for current and future technologies. Studying new factors, which are not integrated in any of the existing models, may play crucial roles in the adoption decision. For instance, a recent study by (Röcker, 2010) showed that the social situation in which technology is used significantly influenced the acceptance of the system. The acceptance of future IT is not determined by usefulness and ease of -use alone, but is also affected by a variety of other factors (Röcker, 2010). Therefore, there is a need to extend our

knowledge of IT adoption by investigating additional factors that may influence Internet-only bank acceptance other than those that have been investigated by the well known TAMs.

The current study addresses the effect of religiosity, perception risk, trust, awareness and need for human interaction along with other factors adapted from TAM, TRA and IDT in order to understand their interaction and influence on consumers' attitudes, and their intention to use Internet-only banks. This study seeks to understand the factors and limitations that may facilitate or restrict the acceptance of Internet-only banks. This study seeks to fill the gap in understanding Internet-only bank acceptance by investigating the influences of religion, religiosity and values on Muslim consumer's technology acceptance behaviour. It also investigates some of the other factors that may contribute to motivating or restricting consumers from accepting innovations. The theories that were utilised to frame this research include: the theory of reasoned action (TRA), the technology acceptance model (TAM), and innovation diffusion theory (IDT). Although these theories have been derived from different disciplines, it was beneficial to integrate them and extend the integrated model by including additional variables. The following subsections discuss the rationale behind integrating TRA, TAM and IDT, the reasons for extending the model by including additional variables of risk, perceived trust and need for human interaction to the integrated model, and the grounds for extending the model by including religiosity and human values.

1.3.1 The rationale for integrating TRA, TAM, and IDT

As mentioned earlier, the TAM has received a great deal of attention because of its parsimony. Despite its simplicity, it outperformed the theory of planned behaviour (TPB) and the theory of reasoned action (TRA) in explaining variance across many studies (Bagozzi, 2007). However, this simplicity in explaining human behaviour makes the TAM neglect the real nature of such behaviour. In their critical review of TAM, Legris et al. (2003), suggest that TAM should be integrated into a more comprehensive

model combining variables related to both human and social change processes as well as the adoption of an innovation (Yi et al., 2006). Chen and Tan (2004) assert that integrating innovation diffusion theory (IDT) and TAM would provide a better explanation of technology acceptance than either of the two models could provide separately. This assertion was supported by Wu et al. (2007), Horan et al. (2004), Zhou (2008) and Lee et al. (2011). Moreover, the integrated TRA and TAM were used by several researchers (e.g., Venkatesh & Morris, 2000) to investigate consumers' acceptance of IT. Several studies have used an integrative approach where they involve more than one of the three streams (TAM, TPB, and IDT) of research (Yi et al., 2006). For example, Agarwal and Karahanna (2000) integrated IDT, TAM, flow theory, and social cognitive theory, to study individuals' acceptance of the world wide web, and they found that playfulness and personal innovativeness are important of world wide web, and they found that playfulness and personal innovativeness are important determinants of cognitive absorption. They also found that cognitive absorption is a proximal antecedent of PEOU and PU. Moreover, In their investigation of the effects of individuals' perceptions of the characteristics of the target technology on two acceptance outcomes Agarwal and Prasad (1998), integrated the IDT with TAM, and found that the innovation characteristics of compatibility, visibility, voluntariness and trialability are relevant in explaining individuals' current usage, while the only a relevant innovation characteristics for future use intention are results demonstrability and relative advantage. In addition, Chen et al. (2002) combined IDT and TAM to examine consumer behaviour in the virtual store context. They find that intention is determined by consumers' attitude toward using virtual stores. Their model also state that compatibility, usefulness, and ease of use are the primary determinants of consumer attitude to using virtual stores and that usefulness of virtual stores is influenced by compatibility and ease of use. In addition, Wu et al. (2007), used the integrated model of IDT and TAM to investigate acceptance of mobile computing in the healthcare industry. Furthermore, Karahanna et al. (1999), integrate IDT and TAM to examine pre-adoption and post-adoption beliefs and attitudes. Their study reveals that normative pressures solely determine the intention of the potential adopter, whereas attitude is solely determined the intention of the user.

Moreover, the attitude of potential adopters is based on innovation characteristics (i.e. ease of use, usefulness, observability, trialability and result demonstrability), while the attitude of users is based only on perceptions of image enhancements and instrumentality beliefs of their usefulness. Furthermore, Lai et al. (2010) combined TAM with IDT and suggested that the combined models are better at explaining customers' behaviour toward the adoption of IB than either of these models alone. In addition, Venkatesh et al. (2003) combine IDT, TAM, TPB, TRA, social cognitive theory, motivational model and the model of PC utilisation to formulate the unified theory of acceptance and use of technology (UTAUT). In UTAUT, behavioural intention is determined by performance expectancy, social influence, and effort expectancy, while actual use behaviour is determined by behavioural intention and facilitating conditions. They also included the gender, age, experience and voluntariness of use as moderators in the model. UTAUT was able explain 70 percent of the variance in usage intention, substantially exceeding the explanatory power of any of the original eight models and their extensions. Moreover, Wu and Wang (2005) use the IDT and TAM, they integrated innovation diffusion theory, perceived risk, and cost into TAM to investigate what determines user mobile commerce acceptance. They found all variables except the PEOU affected the users' behavioural intention significantly. Although, Venkatesh et al. (2003), proposed the UTAUT model that includes variables from TAM and TRA, the model includes only one variable from IDT (perceived voluntariness) but did not include any innovation characteristics other than the variables of PU and PEOU, which are adopted from TAM. In addition, Venkatesh and Davis (1996) proposed TAM2, which is an extended model of TAM and included subjective norm, result demonstrability, and image. However, TAM2 examined these variable effects only on perceived usefulness without incorporating them into the nomological network of TAM.

The above discussion shows that there is a need to enhance TAM by expanding it through integrating it with other recognisable consumer behavioural models and by adding additional variables that have been shown in other studies of technology acceptance to have significant influence on consumer's behavioural intention. The

rationale behind expanding TAM through integrating it with TRA and IDT is that these models focus on different aspects of user acceptance of innovations. TAM suggests that an individual's acceptance of information systems (IS) is determined by their beliefs and attitudes to using that IS. However, IDT is multilateral and can be adapted to the needs of multidisciplinary inquiry (Roman, 2003) whereas TRA has the capability to explore the system usage by incorporating subjective norms with attitudes to using technology. Therefore, in the context of IB it is reasonable to combine different aspects of the three models, along with other external variables that show a significant influence in consumer technology acceptance. As TAM reflects the beliefs about and attitudes to IB, TRA reflects the social influence of consumers' acceptance behaviour and IDT reflects innovation characteristics and how they may influence consumers' acceptance behaviour. Thus, enhancing TAM by including additional variables from either TRA or IDT, along with additional variables from previous studies in technology acceptance, is likely to provide a better explanation of Internet-only banks' acceptance than when any of these models were provided separately.

The current study integrates the key variables of TAM (perceived usefulness and perceived ease of use), TRA (subjective norm, attitude and behavioural intention) and IDT (personal innovativeness, compatibility, trialability, and observability). This study concentrates on investigating Muslim consumers' behavioural intention rather than investigating their actual behaviour. The decision to study intention as the dependent variable in this study relies on theoretical and practical reasons. Intention has a major influence on actual behaviour as it mediates the effect of other determinants on behaviour (Ajzen & Fishbein, 1980). Moreover, this study is a survey-based cross-sectional design to collect quantitative data "*using intention instead of usage avoids the potential problem of retrospective analysis*" (Yi et al., 2006). Finally, although online banking is common in most Islamic countries, the target technology in this study, Internet-only banking, is considered an emerging technology in developed countries and not yet been introduced to developing countries. Therefore, it would be reasonable to investigate consumers' probability to perform a specified behaviour (Ajzen and

Fishbein, 1980), in this study rather than the actual use.

1.3.2 The rationale for extending the model by including the additional variables of perceived risk, perceived trust and the need for human interaction to the integrated models

Studies in technology acceptance in general and e-commerce in particular have found that several variables such as trust (Hoffman et al., 1999; Torkzadeh & Dhillon, 2002), perceived risk (Sathye, 1999; Lee & Turban, 2002; Suh & Han, 2002; Cheng et al., 2006; Hirunyawipada & Paswan, 2006; Roca & de la Vega, 2009; Grabner-Krauter & Faullant, 2008; Polasik & Wisniewski, 2009; Abu Shanab et al., 2010; Pavlou, 2011), awareness (Sathye, 1999; Sohail & Shanmugham, 2004; Pikkarainen et al., 2004; Fitzgerald, 2004; Al Sukkar & Hassan, 2005; Gerrard et al., 2006; Polasik & Wisniewski, 2009), personal innovativeness (Agarwal & Prasad, 1998; Jones et al., 2002; O’Cass and Fenech, 2003; Sait & Hussain, 2004; Hirunyawipada & Paswan, 2006; Lee et al., 2007; Bhatti, 2007; Aldás-Manzano et al., 2009; Hoffmann & Soyez, 2010; Abu Shanab et al., 2010), previous experience in technology (Bowen, 1986; Igbaria & Chakrabarti, 1990; Igbaria, 1992; Venkatesh & Davis, 2000; Vekantesh et al., 2003; Monsuwe et al., 2004; Burton-Jones & Hubona, 2006; McKechnie et al., 2006; Riley et al., 2009; Abbasi et al., 2010), the need for human interaction (Zeithaml & Gilly, 1987; Marr & Prendergast 1991; Dabholker, 1999; Meuter, 1999; Mickey et al., 2002; Al Sukkar & Hassan, 2005; Jahng & Ramamurthy, 2007) have direct or indirect effects on consumers’ behavioural intentions to use technologies.

When Davis (1989), developed a model to predict individual acceptance of new technology, he did not include uncertainty of outcomes as a factor that may restrict individual acceptance of new technology. Also, TAM was developed to predict the acceptance of technology as a whole, without paying attention to technology related to high -risk situations and therefore there is a need for extensions to such a model for the purpose of this study. This extended model includes information medium preferences, perceived trust and risk perception effects on technology acceptance. The preference for

face-to-face communication over technology-based communication in Arab countries has been stated by Hill et al. (1998). In addition, Straub et al. (1997) investigated the acceptance of email as a communication medium in three countries and claimed that people in high uncertainty-avoidance countries have a lower preference for technology-based media. They argue that in situations where high ambiguity and uncertainty exist, people prefer not to use high levels of technology, especially in countries with a high uncertainty-avoidance score. From this, it could be assumed that in Arabic countries, where uncertainty avoidance is high and there is a preference for face-to-face communication, people will be less willing to accept Internet-only banks, especially when the risk perception with regard to such banking is very high. As Pavlou (2003: 69) states, “*The spatial and temporal separation between consumers and web retailers and the unpredictability of the Internet infrastructure generate an implicit uncertainty around on-line transactions*”. Different types of risk may accrue during online transactions, for instance: the risk of monetary loss and the risk of loss of privacy. “*The open nature of the Internet as a transaction infrastructure and its global nature create uncertainty around on-line transactions*” (Pavlou, 2003: 70). The Internet-only banks are not an exception to that because as any “*B2C e-commerce is associated with an important delegation of authority that consumers surrender during on-line transactions*” (Pavlou, 2003: 70). This delegation of authority by consumers makes trust and perception of risk important factors that need to be studied in depth because they are crucial elements of success of Internet-only banks. Perceived risk is also an important element of e-commerce that is likely to influence consumer behaviour (Jarvenpaa et al., 1999; Pavlou, 2003).

Trust is important in the Internet-only banks because of the high degree of risk and uncertainty surrounding most of the Internet-only banks’ transactions. Jarvenpaa et al. (1999) referred to the effect of trust on consumer purchase intentions. Thus, the role of trust is important for adequately capturing consumer behaviour in Internet-only banks. Since “*trust and perceived risk are essential constructs when uncertainty is*

present” (Pavlou, 2003: 70), therefore, these two beliefs are integrated in the proposed Muslim consumers Internet-only bank acceptance model.

Some factors are related to uncertainty about online financial services and other factors are related to group influence and personal differences and to the need for the personal touch and previous experience in using technologies. These factors are perceived trust, perceived risk, the need for human interaction, and previous experience, which in technology acceptance models, such as TAM have missed. Thus, the introduction of these variables will help in overcoming some of the limitations of TAM and could increase the predictability of consumers’ intentions to use Internet-only banks.

1.3.3 The rationale for extending the model by including religiosity and human values to the integrated models

Previous studies that were conducted outside Western countries and that used TAM often studied the culture of the native country using Hofstede’s (1980) cultural model, and so these studies tended to study culture at the aggregate level. This leaves a gap in understanding individual cultural differences that, according to Srite & Karahanna (2006), are held differently even within same country. It may be argued that, 'social pressure' was later included in TAM as extension to overcome the limitation of ignoring social influence in the original TAM (e.g., Venkatesh & Davis, 2000). However, studying the influence of social groups on individuals’ interpersonal intentions was not enough to understand the effect of group in individual decisions (Bagozzi, 2007). Researchers in information technology acceptance stressed the need to understand individuals’ inherent perceptual behaviour, which may appear differently across cultures and cross-demographic and personal characteristics.

According to Bagozzi (2007: 245) TAM, as well as TRA and TPB, suffers from a fundamental problem, as these models ignore “*group, social, and cultural aspects of decision making*”. It is important to involve social and cultural variables in the study of user decision-making process. Individual behaviour is usually not done in isolation. A

person's decision is sometimes made "*spontaneously, deliberatively, or in response to social pressure*" but usually a person makes decisions "*interpersonally, or as agents of organizations, or jointly with others, or in a holistic sense as members of collectivities*" (Bagozzi, 2007: 247). Therefore, it could be argued that the influences of cultural and group aspects are crucial in technology acceptance decisions. Despite that, subjective norms have been included in some TAMs, yet this variable does not reflect the whole sense of group and the cultural influence on the technology use. Bagozzi (2007: 247) believes that the social influence variable is often treated in "*the limited sense of either a constraint or force on the decision maker*" when it is introduced in TAMs. Bagozzi (2007) suggests the importance of considering the compliance, internalisation, identification, and collective intentions in studying technology acceptance behaviour. These terms reflect the influence of culture, groups and society. Moreover, Bagozzi (2007: 247) believes that "*individual differences between cultures*" may be significant, as people from different cultures may "*react differently in terms of certain cognitive, emotional, or motivational processes*".

Moreover, Park (2007: 20) argues that most consumer adoption theories have adopted the expectancy valence theory (EVT) to explain individuals' technology acceptance and usage decisions. According to him, the use of an EVT approach to explain such decisions is not suitable as the use of EVT to explain individual behaviour focuses on a "*rational and self-interested computational process of the decision maker*". He also states that the EVT assumes that humans are rational decision makers who use the available information to take decisions for their own benefit, and that they are "*motivated to maximize utilities or make decision economically to satisfy self interest*". In Park's opinion, the universality of these assumptions is questionable for three reasons: 1) Resource boundaries may not always allow individuals to act and think rationally and human behaviour could be described as either conscious or partly conscious; 2) Individuals are not always self-interested, as some people prefer to consider others' benefits over their own. 3) "*EVT is limited to individual's evaluations about objects or objectives behaviour, although research indicates that various contextual and individual*

differences influence behaviours” (p.27).

According to the review of the major theories of consumers’ adoption behaviour, there is an emphasis on the individual view of technology acceptance decisions. Almost all the theories and models neglect the group benefits in the decision-making decision, assuming that the person is only interested in his/her own benefits. Although the studies in IT included cultures as one of the external variables that may affect adoption behaviour, they either tested the culture on the aggregate level or ignored some of the important of cultural elements, such as language, religion and values. Thus, there is a need to include external variables that reflect individual motivational characteristics such as personal values, and other cultural factors that may set boundaries on human behaviour and examine their influences on individuals’ decision to accept and use Internet-only banks. Religion plays an essential role in formulating culture and determines the social norms, patterns, traditions, obligations, and practices of conservative religious countries. In a country like Saudi Arabia, Islam is not only a religious ideology, it is also a comprehensive system which embraces detailed perceptions for entire ways of life (Al Munajjed, 1997). Islam can be considered the most influential factor in Arabic culture and society (Abdul Gader, 1999). Al-Saggaf and Weckert (2004), believe that the religion of Islam coupled with Saudi culture have a great influence on Saudi attitudes, practices, and behaviours, and that both religion and culture shape Saudi peoples’ construction of their reality about their lives. Luqmani et al., (1989) also stated that religion has a role in forming values. Anthropology notes that traditional societies are dominated by religious and social conventions (Gibbs, 1982; Merrill, 1969). *“Different religions emphasize a different balance between positive emotions such as love and comfort and negative emotions such as fear and shame”* (Thagard, 2005: 59). Furthermore, Mittelstaedt (2002), argued that religion influences market activities through its effect on political, social, competitive and institutional means. Religion has exerted its authority on markets through the nation-state. Few researches on the influence of religion in marketing have conducted in the Islamic context. The research that has been done so far concentrated in one practice of

marketing, which is advertisement design (Al-Olayan & Karande, 2000; Rice & Al-Mossawi, 2002). In their study of the influence of religious affiliation in Muslim consumers' perception of international companies' advertisements, Rice and Al-Mossawi (2002), stress the role of religion in shaping consumers' practices by suggesting that, based on religiosity, different consumer segments could be identified within Middle Eastern Muslim countries. These segments can be seen in a continuum from less conservative to more conservative. While Internet-only banks provide new opportunities for many countries, organisations and individuals, it still carries questions concerning the perception and preferences of consumers from different cultures. A number of areas related to the cultural effects on Internet-only banks have been neglected in the literature of consumers' adoption of new technology. Studies in consumer acceptance of Internet-only banks ignore the effect of religiosity, even though religion has an important influence on one's beliefs. Hofstede (1980) states that religiosity has something to do with uncertainty avoidance. In their study, Hill et al. (1998), stated that religion was one of the most important cultural factors stated by the study's participants that influences their acceptance of new technology. Therefore, it would be rational to investigate the influence of religion on consumer Internet-only banking adoption decisions. Furthermore, it is clear that most of the previous studies of the impact of religion, religiosity, and values on consumer behaviour have been done in Western countries. These impacts have not received enough attention in Eastern countries, especially in Islamic countries. It should also be remembered that most studies on the influence of religion on consumer behaviour concentrate on answering whether religion influences consumer behaviour, but few studies have been conducted to investigate how religious teachings influence consumers' Internet-only banking acceptance behaviour. The answer to the later question is important, as it can determine the features that companies should emphasise when they design products and services. As a result there is a lack of understanding of the influence of these factors on consumer's consumption behaviour in general and their IB adoption behaviour in particular.

Moreover, as has been stated earlier in this chapter, most TAMs have been developed and tested within Western, developed countries, and therefore the ability of these models to predict consumer's technology acceptance in less developed countries is questionable. Research exists (Al Gahtani, 2001, 2004, 2008; Leidner & Kayworth 2006; Gefen & Straub, 1997; Rose & Straub, 1998); studied the applicability of TAM in nations other than the USA. In some of these studies the results were positive (Al Gahtani, 2001, 2003, 2004, 2008), but for Gefen and Straub (1997), the model was not able to predict technology acceptance in cultures with high uncertainty avoidance such as Japan. From this it could be assumed that some cultural variables have a key effect on the predictability of TAM. It also has an effect on individuals' acceptance and satisfaction with new technology (Brown & Buys, 2005; Brown, 2002). Religion is a powerful factor shaping culture, yet not enough studies have been conducted to study the influence of religion on consumer acceptance and adoption behaviour. Moreover, no studies investigated the ability of TAM to predict the acceptance behaviour of individuals of the same religion holding different degrees of religiosity. Therefore, more attention should be given to understanding how users with different levels of religiosity perceive the risk, trust, usefulness and ease of use of Internet-only banks. In addition, there is a need to know how these perceptions affect a consumer's decision to adopt Internet-only banking.

The discussion above makes it clear that there is a need for cultural-oriented studies in the field of Internet-only banks in order to gain a clear understanding of the issues that may motivate or inhibit consumers from using Internet-only banks. This understanding will help bank management personnel to identify the means to facilitate consumers' acceptance of IB.

1.4 **Research objectives**

This study aims to:

1. Extend the integrated (TAM, IDT, and TRA models) in order to develop a more accurate user acceptance model that includes the interaction effect of religiosity, values, awareness, perceived trust, previous technological experience, human interaction and perceived risk.
2. Empirically test the new extended model in Muslim populations to get a better understanding of the influence of religion on consumer Internet-only banks acceptance behaviour.
3. Identify the challenges of adopting Internet-only banks in Islamic countries.
4. Develop a better understanding of the customers' choice of delivery channel and how religion and other individual and social factors may affect this choice.

1.5 **Research questions**

To achieve the research objectives stated in section 1.4, this study attempts to answer the following questions:

1. What are the factors that might influence consumers' intention to use Internet-only banks?
2. How does religion influence technology diffusion?
3. Does religiosity influence the development of perceptions of risk, trust, and ease of use that may determine consumer adoption of Internet-only banks?
4. Is TAM sensitive to the different religiosity levels?
5. Does religiosity influence consumer's innovativeness and their need for human interaction?
6. Are there any differences between banking customer segments on their preferences of e-banking?

1.6 Research methodology

This study investigates the factors that influence consumer's intention to use Internet-only banks. The study looked at the phenomenon under investigation from different angles such as cultural, consumer perceptions, and human behaviour. Therefore, the study context comprises three main fields of study: culture, electronic consumer behaviour, and social influence. Giddens (1984) asserts that post-positivism informs social theorising and empirical investigation and posits the existence of several levels of understanding for social phenomena. Krathwohl (1997) suggests that a quantitative research method tends to support the positivist epistemology, and that a qualitative approach is more favoured to a constructive/interpretive epistemology. For Krathwohl (1997), the use of a combination of techniques from the quantitative and qualitative approaches is particularly important in social science research. The need for multiple research techniques is rooted in the post-positivism ontology, where the observer and the observed phenomenon are expected to affect each other (El Said, 2005).

A mixed method approach is used for this research, particularly the use of 'triangulation' in order to permit a combination of qualitative and quantitative methods for the research. The researcher must get ideas about the nature of reality in order to identify the relationship between variables and to specify appropriate methods for conducting particular research (Guba & Lincoln, 1994). In this research, the induction characteristic of qualitative methods is a requirement for this research for two reasons. First, the topic of Internet-only banking relationships relating to different religiosity levels is relatively new in academic consumer behaviour literature. Qualitative research allows for flexibility when gathering information, and for a semi-structured exploration of issues in a less structured format with a smaller number of respondents than quantitative methods (De Ruyter & Scholl, 1998). The second reason for using a qualitative method was the type of information this research intended to gain. The depth and detail of qualitative data required in order to understand complex phenomena can be obtained only by getting psychologically close to the phenomena under study. "*The*

closer the researcher gets to the phenomenon, the clearer it is understood” (Carson & Coviello, 1996: 55).

On the other hand, quantitative research is used in this research, because its larger samples and statistical levels provide statistical generalisation (Yin, 2003). Therefore, this research uses qualitative and quantitative research methods in a complementary fashion.

Based on the literature review that covers several fields of study, the main research questions have been initially phrased. This research investigates “*what are the factors that may influence Muslim consumers’ acceptance of Internet-only banks?*” There are some findings linking Islamic banking acceptance and adoption behaviour to religious variables, but there are not enough investigations on the influence of religious factors on consumers’ acceptance of IB. Therefore, qualitative study is essential to gain depth understanding of Muslim consumers’ intentions to accept Internet-only banks.

According to Krathwohl (1997), data gathering is the key activity in a research project. Consequently, it should be directed by the research objectives and influenced by the environmental factors that the researcher has to investigate. The data for this research is gathered through a mixed method approach. Accordingly, data analyses were driven by both qualitative and quantitative strands. The qualitative phase of this research begins by conducting semi-structured interviews with religious scholars to clarify the role of religion on technology acceptance and in-depth interviews with consumers to gain an understanding of the factors that may impede or motivate them to use Internet-only banks.

Following the literature review, semi-structured and in-depth interviews, a survey was used to collect more data and complement the findings using a larger sample. Hoft (1996), suggested that surveys are practical methods for identifying cultural preferences, where the use of a Likert-type scale can be used to reduce the variables that

may exist. The survey involves gathering data for scientific purposes from a sample of the population using standardized instruments and protocols (Henriksen, 2002).

The quantitative analysis technique that is utilised in this study is the structural equation modelling (SEM). SEM tools are increasingly being used in behavioural science for the causal modelling of complex, multivariate, data sets in which the researcher gathers multiple measures of the proposed constructs (Hair et al., 2006). While the first generation of statistical tools cannot accommodate the complex data that is particularly valuable when investigating consumer behaviour, structural equation modelling (SEM) is more suited for the mathematical modelling of complex processes to serve both theory and practice (Gefen et al., 2000). This technique seeks to represent the observed data in terms of a number of structural parameters defined by a hypothesised underlying model. It is a theory-based approach that has the ability to bring data and theory together (Tabachnick & Fidell, 2000).

1.7 Contribution of the present research

This study contributes in the following ways:

1. It makes further contributions by providing fine-grained analysis of religion, religiosity and values and how these factors influence consumer's attitudes and behaviour toward technology.
2. It contributes to innovation and technology adoption knowledge by investigating how the absence of social interaction may influence consumer adoption of new banking technology.
3. It also benefits the implementation of Internet-only banks and partners and consultants who are working in banking sectors.
4. This study helps bank managers understand the importance of consumers' behavioural and demographical segmentation in predicting their responses to new banking technology. Such an understanding might assist banks with regard to implementing this self-service technology more efficiently.

1.8 Structure of the thesis

The current thesis consists of ten chapters (see figure 1-1). An overview of these chapters is as follows:

Chapter one begins by giving the background of the research area, then discusses the justification for the study and outlines its objective and the questions that it aims to answer. The chapter also provide a brief presentation of current thesis contributions and gives an outline of the structure of the thesis.

Chapter two explores consumer adoption behaviour theories that explain human behaviour in general and consumer's technology acceptance behaviour models in particular. The chapter also presents studies that used the discussed model to investigate consumers' adoption of online banking. The chapter concludes by summarising and comparing the consumers' adoption behaviour theories.

Chapter three concentrates on literature related to consumers' acceptance of self-service-technology. It starts by discussing consumers' acceptance of self-service technology, followed by a discussion of the online-only banking concept and a comparison with other e-banking concepts. The rest of the chapter concentrates on discussing the consumers' acceptance of online banking studies. The chapter concludes with a summary of what has been discussed, along with a discussion of the gaps in IB studies.

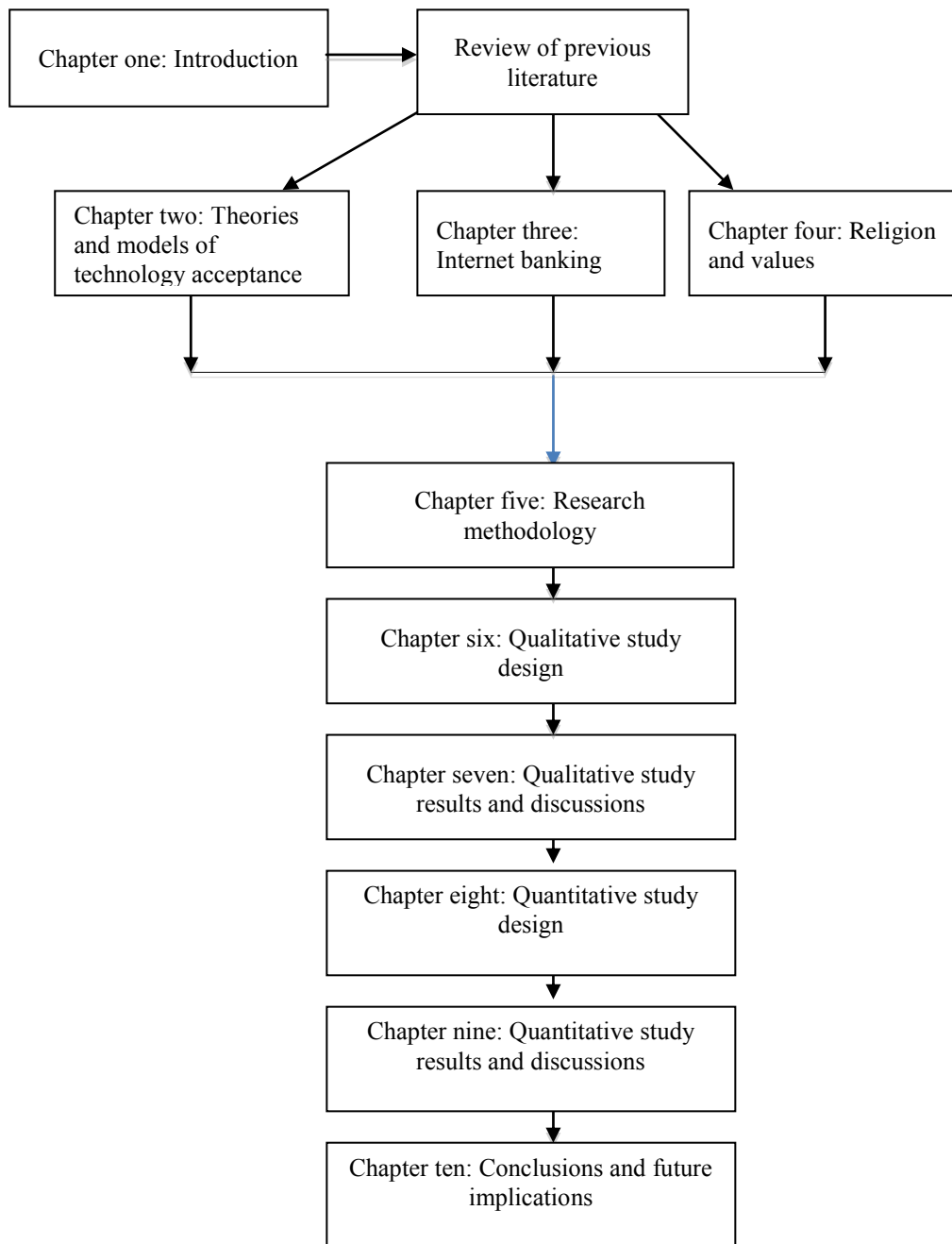


Figure (1-1). Proposed design of the thesis

Chapter four reviews the literature on religion, human values and consumer behaviour. It elaborates on religion and consumer’s technology acceptance behaviour. It then discusses the value concept along with the recognised theories in personal values. This is

followed by a discussion of the studies of the influence of human values on consumers' behaviour.

Chapter five starts by describing the post-positivist as an adapted researcher philosophy, followed by discussing the mixed method methodological strategy, and then elaborates on discussing the background of the study location.

Chapter six elaborates the discussion of the qualitative study. This chapter describes how qualitative elite and in-depth interviews are used to explore Muslim consumers' acceptance of Internet-only banks and the factors believed to influence their adoption process. In the pages that follow, a justification of the use of both interview methods for this research is provided. Moreover, the sampling procedures, interview format and data analysis plans for each interviewing method will be discussed.

Chapter seven presents the results and conclusions of the qualitative study. The chapter concludes by proposing an initial model that is tested in the quantitative study.

Chapter eight reviews the research variables definitions and operationalisation, the hypotheses development, the questionnaire development, and the sample design and procedures in detail.

Chapter nine discusses the research hypothesis by linking the findings of the quantitative study with the findings of the qualitative study and the findings of previous work in the field.

Chapter ten presents and discusses the findings of the current thesis. Thesis contributions in theory and practices are discussed. In addition, the limitations of the current thesis are discussed and recommendations for future studies are provided. The chapter ends with some conclusions related to the thesis topic.

Chapter two: Theories and models of technology acceptance

2.1 Introduction

The previous chapter introduced the research background. Chapter one of this thesis presented the background of the study topic, the study objectives, rationales of the study, and outlines of the thesis chapters. This chapter reviews the extant literature in order to explore various aspects of consumers' adoption behaviour. A number of theories and models that have been developed and used in a variety of disciplines to explain and predict humans' adoption and consumption of innovation are presented in this chapter. Understanding human behaviour is not easy. As Ajzen (1991) states, the task of investigating human behaviour can be very hard and complex. The complexity may become even higher when we think of behaviour within the Internet environment where the uncertainties are high and it is hard to develop trust. In investigating IB, the task becomes more difficult when there is much suspicion and a considerable fear of risk. Investigating consumers' adoption of Internet-only banks involves the study of human behaviour from different angles. This makes the task complex, in the way that Ajzen (1991) implies. In order to conduct this difficult task there is a need to understand various theories that have been formulated in attempts to uncover the motivations, factors, and beliefs behind human behaviour.

This chapter discusses some of the well developed and recognised theories in consumer behaviour and suggests which of these theories may be most effective in helping to answer the questions this thesis poses. This chapter starts by exploring some theories of consumer adoption behaviour. The theory of reasoned action (TRA), the theory of planned behaviour (TPB), the technology acceptance model (TAM), the revised technology acceptance models (TAM2, TAM3), innovation diffusion theory (IDT) and the unified theory of acceptance and use of technology (UTAUT) are discussed in depth in this chapter. The chapter is then presents some of the studies that have used the model to investigate patterns of adoption of online banking. Then the chapter compares theories of consumer adoption behaviour and proposes the best theory

that could be adopted to explain consumers' behaviour for the purposes of this research. The chapter then concludes with a summary.

2.2 Theories of consumer adoption behaviour

Research into consumer behaviour is based mainly on a number of theories that forecast and explain human behaviour in several domains. Many theories have been developed to predict consumer behaviour intentions. According to Grabner-Krauter & Kaluscha (2003), the majority of established behaviour models are based on three theories: the theory of reasoned action (Fishbein & Ajzen, 1975a), the theory of planned behaviour (Ajzen, 1985) and the technology acceptance model (Davis, 1989). This section concentrates on discussing TRA, TPB, TAM, the revised technology acceptance models (TAM2 and TAM3), UTAUT, and IDT.

2.2.1 Theory of reasoned action

One of the most well-established and highly researched behavioural models is the theory of reasoned action (TRA). TRA has proved the predictability of and has given explanations for a wide range of behaviour (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). TRA has been used to predict and explain behaviour in various fields of study, such as consumer behaviour (Thompson et al., 1994; Engel, 1976; Taylor & Todd, 1995b); fast food consumption behaviour (Bagozzi et al., 2000); adoption of strategic IS behaviour (Mykytyn & Harrison, 1993); system investment decision behaviour (Clark & Soliman, 1999); IT adoption behaviour (Karaharna et al., 1999); Internet use behaviour (Bobbitt & Dabholkar, 2001); health care (Roberto et al., 2011) and channel-migration behaviour (Sanjukta, 2011). Table (2-1) presents some of the studies that have adopted TRA.

The assumption of TRA is that ... *“human beings are usually quite rational and make systematic use of the information available to them”* (Ajzen & Fishbein, 1980). This assumption is applicable in one way as it indicates that individuals should use the information available to make a decision. For instance, in the banking business

consumers are looking to maximize their values. Therefore, they usually compare costs to benefits whenever they take a decision. Nevertheless, rationality remains constricted by resource boundaries and the amount of control that individuals have over their own behaviour.

Table (2-1). Research related to TRA

Study	Sample	Technology	Objective	Results
Abdel Gader and Kozar (1995)	97 respondents	Computer purchasing decision	Test a model which is based on TRA in two cultures	No differences found between the two cultures. Education level, computer knowledge and experience influence the attitude.
Al Gahtani and King (1999)	329 students	Spreadsheet systems	Test the integrated TRA+IDT+TAM	The integrated model shows fit. Relative advantage influence ATT and (EUC). Compatibility influence behavioural usage.
Korzaan (2003),	342 students	Online purchasing	Test the relationships between flow and ATT; EB and ATT; ATT and purchasing intention	Attitude significantly influences intention. EB and flow significantly influence intention.
Pavlou (2003)	102 students and 1300 Internet survey	E-commerce	Test the relations between perceived risk and PU, ITU, PEOU	TAM and TRA are robust in predicting behaviour and intention. Perceived risk and trust are significant factors influencing intention.

Source: The researcher; Al-Qeisi (2009); Al Hajri (2005)

In their development of their conceptual framework, Fishbein and Ajzen (1975a) were interested on providing explanations about why people do (or do not) perform specific types of behaviour. Fishbein and Ajzen's (1975a) concept is based in the relationship between the individuals' cognitive behaviour and their attitudes and intention. In the TRA, Fishbein and Ajzen (1975)'s aim was to develop an integrated

conceptual framework to predict and explain an individual’s behaviour in a general situational setting. They argue that previous studies of consumer behaviour generally lacked a conceptual basis for measuring attitude. They also argue that humans are generally rational in nature and that they evaluate offers before they make decisions regarding behaviour. Thus, there are three important determinants of behaviour. These are 1) behavioural intentions (BI), 2) attitudes (A) and (3) subjective norms (SN). Figure (2-1) indicates that the behaviour is immediately determined by behavioural intention. In regard to attitudes and subjective norms, influence on behaviour is mediated through behavioural intention. On the other hand, subjective norms and attitudes mediate the relationship between behavioural and normative beliefs. As figure (2-1) shows, the influence of these variables on behaviour can be represented in a hierarchical sequence in order to facilitate understanding.

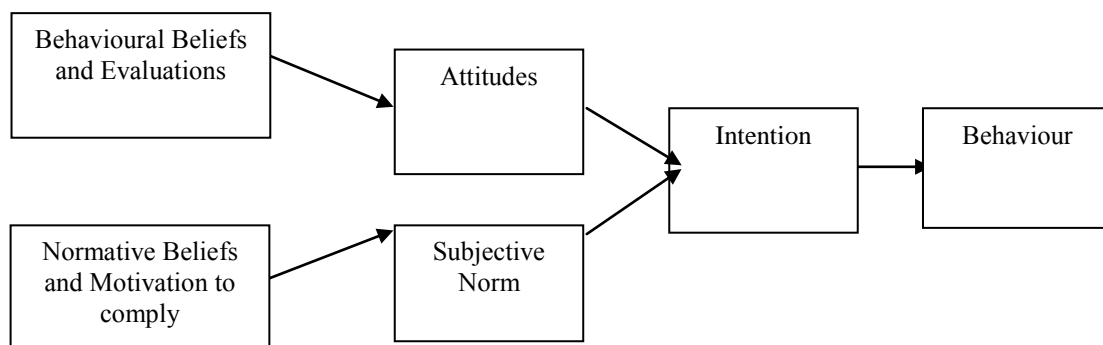


Figure: (2-1). Theory of reasoned action. Source: Fishbein and Ajzen (1975a)

Actual behaviour of individuals is defined as in the TRA as “*observable acts that are studied in their own right*” (Fishbein & Ajzen, 1975a: 335). The authors believe that behavioural intention is the best predictor of usage behaviour. They also state that behavioural intention is the immediate determinant of any behaviour. In addition, they state that it is sufficient to explain any behaviour if behavioural intention measure meets behavioural criterion. Fishbein and Ajzen (1975a) consider behavioural intention as the strongest measure of a person’s intention to perform a specific behaviour. According to

Ajzen and Fishbein (1980: 6), “... a person’s intention is a function of two basic determinants, one personal in nature and the other reflecting social influence”. Behavioural intentions are determined by two variables: people’s attitudes and their subjective norms (figure 2-1). The first variable refers to personal influences on the individual’s behavioural intention and the second refers to the social influences on the individual’s behavioural intention (Fishbein & Ajzen, 1975a). Attitudes here specifically refer to “... individuals’ positive or negative evaluation of how they perform the behaviour” (Fishbein & Ajzen, 1975a; 6). This means that a person’s feelings toward certain behaviour are major determinants of their intention formation. On the other hand, subjective norms (SN) refer to “... the person’s perception that most people who are important to him think he should or should not perform the behaviour in question” (Fishbein & Ajzen, 1975b: 302). Subjective norms indicate the strength of social influence on an individual’s behavioural intention to perform (or not to perform) the specific behaviour. There are two major determinants of attitude; these are the perceptions concerning the outcome of performing certain behaviour and the assessment of these outcomes (Fishbein & Ajzen, 1975a). With regard to subjective norms, Fishbein and Ajzen (1975b) assume that an individual’s subjective norm is a function of “the perceived expectations of specific referent individuals (or groups), and the person’s motivation to comply with those expectations” (Fishbein & Ajzen, 1975b,; 302). They claim that an individual’s perceptions of what others need them to do and their motivation to comply with others are important in formulating their subjective norms.

As mentioned at the beginning of this section, TRA is a well-recognised theory that has been used for predicting human behaviour in many different contexts. In Sheppard et al., (1988)’s early review of 87 empirical studies TRA was used to examine the predictability of TRA, and an average correlation of 0.53 was found for the behavioural intention-behaviour relationship and 0.66 correlation for the attitude-subjective norm relationship. Therefore, it was stated that the TRA has predictive power. Several researchers have adopted and applied TRA in order to investigate consumers’ levels of technology acceptance behaviour. In his study of online purchasing, Korzaan

(2003) extended the TRA by adding two constructions: exploratory behaviour and flow. He also used a two-phase structured equation analysis to test the extended model. This indicated that attitude is a direct and significant influence on intention to engage in online purchasing transactions. He also found that both exploratory behaviour and flow have a significant effect on attitudes toward online purchasing. Moreover, Karahanna et al., (1999) applied TRA to two different settings: adoption and continued usage. They concluded that normative pressure determines the intention to adopt, while attitudes are the major determinant of use intention.

TRA has gained wide recognition in the social sciences and in technology acceptance literature. However, some researchers (e.g., Warshaw & Davis, 1985; Davis et al., 1989) have questioned the likelihood of a person actually performing the specific behaviour. For instance, in some situations where there is a gap between behavioural intention and actual behaviour, lower correlations were found between behavioural intention and actual behaviour (Harrell & Bennett, 1974). In his criticism of TRA, Ajzen (1991) refers to one of the assumptions of TRA, which states that it is designed to predict and explain the behaviour that is under an individual's volitional control. The volitional control problem has also been noted by others (e.g., Ajzen & Madden, 1986; Sheppard et al., 1988) and it is considered to be a limitation of the original TRA model. Davis et al. (1989) considered TRA a general model, so it is not capable of specifying the beliefs that work for a particular behaviour. Moreover, Sheppard et al. (1988) stated that TRA is unable to predict outcomes from behaviour. Ajzen and Fishbein (1980) acknowledged their model's limitation regarding the distinction between a behavioural intention and a goal intention. For instance, even though the theory could predict if a person would actually go on a diet, it could not actually assess if the person would achieve his or her goal of losing weight (Sheppard et al., 1988). The theory deals with only that behaviour that is under an individual's volitional control. Therefore, behaviours that are in part resolved by factors beyond a person's voluntary control fall outside the boundary conditions established for the model (Sheppard et al., 1988). Individuals' volitional control of their action assumption has been widely criticised. The conditions

of the model cannot be met whenever the performance of an action requires skill or resources. In this case, the individual cannot do the action even though the intention to do it is strong (Sheppard et al., 1988). For instance, people may not be able to use the Internet-only bank if they lack the resources, for example, Internet access and a device for using the Internet. Therefore, whenever individuals have low levels of volitional control, TRA is not sufficiently equipped to predict their behaviour (Ajzen, 1985).

2.2.2 Theory of planned behaviour

The theory of planned behaviour (TPB), was developed by Ajzen (1991) to examine the relationship between a person's intentions and their actions. It concentrates on predicting and explaining a given course of action that a person is likely to pursue. Ajzen (1985) based this theory on (Fishbein & Ajzen, 1975a; Ajzen & Fishbein, 1980), and on Bandura's (1982) concept of "*self-efficacy... how well one can execute courses of action required to deal with prospective situations*" : 122).

Ajzen's (1985) study focuses on individual non-motivational factors and non-motivational external factors. This means that a lack of opportunities and resources may present problems for a person's volitional control over the behaviour and hence failure to perform the behaviour may occur. As a way to overcome volitional control problems, Ajzen (1985) extended TRA by adding the perceived behavioural control (PBC) construct. Figure (2-2) presents the theory of planned behaviour (TPB) model. TRA has been complemented by TPB (Ajzen, 1985) by including perceived behavioural control as a supplementary factor affecting behaviour intention. For Ajzen (1985) perceived behaviour control refers to person who feeling that the engagement in certain types of behaviour is entirely one's own decision. TPB assumes that behavioural intention is determined by people's attitude toward behaviour and the subjective norms (SN) within the social environment. However, the introduction of perceived behavioural control (PBC) into the model was important.

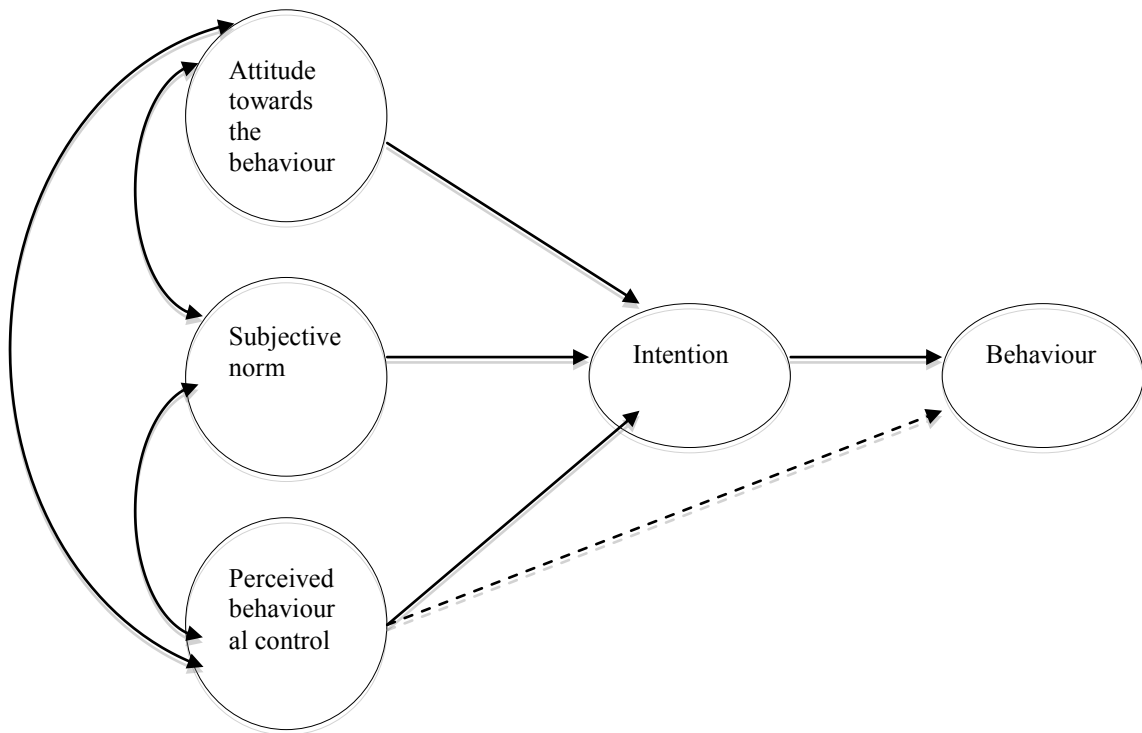


Figure (2-2): Theory of planned behaviour (Source: Ajzen, 1991)

Table (2-2). Research related to TPB

Study	Sample	Technology	Objective	Results
Taylor and Todd (1995a)	786 students	Computer resources centre	Comparing TAM, TBP in a context of experience	Inexperienced user's emphasis on PU.
Notani (1998)	36 articles	Meta-analysis	Testing TPB construct	TPB performed well.
Morris and Venkatesh (2000)	118 workers	New software	Extending the TPB by adding age as an antecedent of attitude, SN, PBC and intention	Young individuals were influenced by attitude. SN influenced older individuals.
Armitage and Conner (2001)	185 studies	Meta-analysis	Testing the TPB	TPB explained 39% of the variance in ITU, and PBC predicted 5% more of self-efficacy.
Zint (2002)	1336 Teachers	Environment risk education	Comparing TRA, TPB, and IT	TPB is better model to predict intention than TRA.
Source: The researcher; Al-Queisi (2009)				

As figure (2-2) indicates, the three factors that constitute behavioural intention in TPB are attitude, subjective norms and perceived behavioural control. In TPB, perceived

behavioural control is the person's perception of the "... *presence or absence of requisite resources and opportunities*" (Ajzen & Madden, 1986: 457) required to conduct a certain type of behaviour. This means that those who believe that they have the resources and opportunities expect fewer problems in performing a behaviour. They perceive that they have complete control over this behaviour. Figure (2-2) shows that PBC has both a direct and indirect influence on actual behaviour. First, the PBC indirectly influences behaviour through its influence on behavioural intention and therefore, does not reflect actual control. Second, PBC directly influences behaviour and reflects actual control. This means that one should first predetermine whether the behaviour is under a person's volitional control or not before trying to predict the behaviour.

TPB is considered as the first extension of TRA, and the two models are similar in that both theories posit that an individual's behavioural intention (BI) influenced behavioural use (BU), and that BI is determined by the individual's attitudes and subjective norm (Ajzen, 1985). Yet, unlike TRA, TPB introduces the additional construct of PBC as a predictor of BI as well as BU. The introduction of this additional variable within TPB was to overcome the limitation of TRA when predicting behaviour under conditions where individuals were having low or no volitional control (Ajzen, 1991; Taylor & Todd, 1995a). Although TPB succeed in providing a solution for the TRA's volitional control assumption, but it still lacks a solution for the assumption of the proximity between BI and BU (Taylor & Todd, 1995a).

Moreover, TPB shares some similarity with TRA and TAM. For example, they are based on the assumption that individuals are rational and usually make systematic use of the information available to them to take action. In TRA, TPB and TAM, behavioural intentions rather than attitude are considered the main predictor of actual behaviour. The difference between TPB and the other two models is that TBP addresses the issue of behaviours that occur without individual volitional control. In addition, TBP differs from TRA and TAM in that it adds the PBC component that accounts for

situations where a person has less than complete control over the behaviour.

Like TRA, TPB has received wide recognition by many researchers in many fields of study. Table (2-2) presents some of the research related to TPB. Armitage and Conner (2001) analysed the previous research using TPB in a meta-analysis study. The study included 185 independent tests of TPB. The major conclusions were support for the efficacy of the PBC and the discriminate validity of the intention measure, as well as the suggestion that more work is needed on normative variables to increase the predictability of the model. When Hausenblas et al., (1997) compared TRA and TPB by using a meta-analysis of 31 studies, the results indicated the significant effect of intention on behaviour, and the significant effect of attitudes on intention. In addition, Sparks et al. (1995) integrated TPB with TRA and added a new construct (perceived ethical obligation), concluding that attitudes and PBC are significant predictors of expectations.

TPB has been applied successfully to different situations to predict behaviour and intention by, for instance, predicting individuals' intentions to utilise software (Mathieson, 1991). Jarvenpaa et al. (1999) mentioned that both TRA and TPB have been evaluated and supported in many contexts, including IT usage behaviour. Moreover, many of the current e-commerce consumer behavioural models are based on the theories of TRA and TPB (Pavlou, 2003; Jarvenpaa et al., 2000. Jarvenpaa et al. (2000) relate the direct influence of perceived risk to the intention of the behavioural control in the TPB (Ajzen, 1985). They translated this in the e-commerce context in terms of the fear that the perceived associated risk with store shopping might reduce the perception of behavioural control and negative influence of that on consumers' willingness to shop. Harrison et al. (1997) adapted TPB to test the adoption of information technology in small businesses and concluded that a stronger adoption decision is based on attitudes, subjective norms, and perceived controls.

Nevertheless, TPB is not free of limitations. One of the limitations of TPB is that it excludes many variables such as habit, self-identity and perceived moral obligations. These variables may be important in predicting intention and behaviour Eagly & Chaiken, (1993). Moreover, *“The TPB as a replacement for the volitional control limitation of TRA suggests that behaviours are deliberate and planned, yet the TPB does not show how do people plan and how does the planning mechanism relate to TPB”* (Al-Qeisi, 2009: 19). In their criticism of TRA and TPB, Taylor and Todd (1995 b), state the importance of persons being motivated to act in specific ways. This assumption could create a problem when studying the adoption of consumer behaviour, in addition to assuming the existence of a structure similar to the belief among the respondents when it comes to the conduct of performance. Moreover, Ajzen (2002) in addressing some problems associated with measurement of PBC, stated that the PBC concept is not original to TPB and that similar ideas of the concept are found in other models such as the model of interpersonal behaviour by Triandis (1979) where it takes the form of a *“facilitated conditions”* perspective. He also acknowledged the difference between self-efficacy and PBC at the general level and recognised the misleading effect in the previous use of PBC interchangeably with self-efficacy. According to Ajzen (2002), the term *“perceived behavioural control”*, in the TBP model, should be read as *“perceived control over performance of behaviour”* to avoided the misunderstanding between *“self-efficacy”* and *“perceived behavioural control”*. Also in their criticism of TRA and TPB Taylor & Todd (1995a) stated that the two models require a person to be motivated to perform a certain behaviour; this postulate may be problematic when studying consumer IB adoption behaviour, moreover, to the postulate of an identical belief structure among individuals when it comes to performing a behaviour.

2.2.3 Technology acceptance model

This section aims to provide background information about TAM, the basis of its development, the studies that have used it, and the criticisms that it has received. The theoretical foundation for developing TAM was adopted from the TRA (Ajzen & Fishbein, 1980). Basing it on the TRA, Davis et al., (1989) introduced TAM, for

predicting IT usage. While TRA and TPB explain any human behaviour, the aim of TAM is to provide an explanation of the determinants of computer acceptance that can relate technology to the user's behaviour (Davis et al., 1989). Davis et al. (1989) highlight the values and attributes approach, based on the premise that people form intentions of adopting a technology based on their beliefs about the attributes of the technology and their estimations of the consequences of adopting those beliefs.

TAM can be defined as a conceptual model that evaluates “...*the effect of system characteristics on user acceptance of computer-based information systems*” (Davis, 1986: 7). TAM aims “... *to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user population, while at the same time being both parsimonious and theoretically justified*” (Davis et al., 1989: 985). According to the assumptions of TAM, actual technology use is determined by user behaviour intentions regarding the technology. It also assumes the user's attitudes influence users BI. In addition TAM hypothesises that attitude is directly influenced by the user's beliefs about the technology. The beliefs include the user's perceived usefulness and ease of use of the technology. TAM assumes that these relationship variables will predict user acceptance of technology. According to TAM, perceived ease of use (PEOU) and perceived usefulness (PU) are correlated significantly with system use where perceived ease of use is defined as “*the degree to which a person believes that using a particular system would be free of effort*” (Davis et al., 1989, : 320) and “*perceived usefulness is the degree to which a person believes that using a particular system enhance his or her performance*” (Davis et al., 1989, p.320). Figure (2-3) shows the TAM. In terms of TAM, Davis (1986) assumed that individuals are quite rational and use information to make their decision about using technology in the workplace.

The original TAM was the result of two major studies: Davis (1989) and Davis et al., (1989). The first study was conducted by using 152 subjects using four different application programmes. The study objective was to validate the PU and PEOU

measures, which resulted in two six-item scales with reliability measures of 0.98 for (PU) and 0.94 for (PEOU). The results indicated that the PU had a strong influence on intention, and the intention predicted computer usage significantly. The results in both studies confirmed that behavioural intention was a major determinant of usage behaviour.

In developing TAM, Davis (1986) adapted three major determinants of behaviour suggested by previous research. He adapted TRA (Fishbein & Ajzen, 1975a, Ajzen & Fishbein, 1980) as a theoretical basis for theories of causal links between PU, PEOU, attitude (A) toward using technology, and behavioural intention (BI) to explain technology acceptance (or adoption). Figure (2-3) shows TAM.

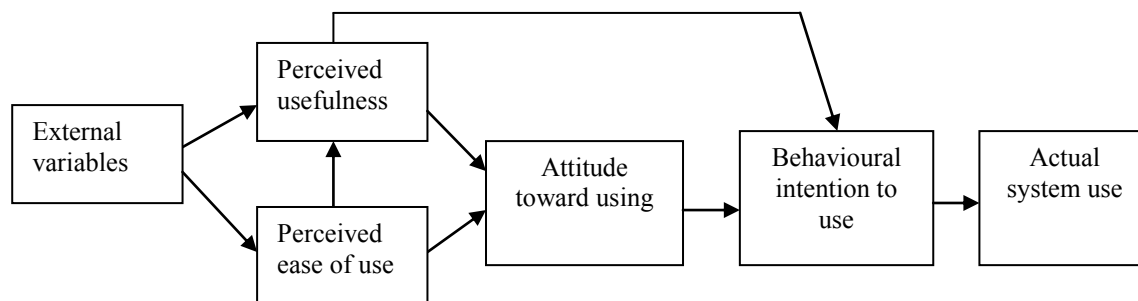


Figure: (2-3). Technology acceptance model (TAM). Source: Davis et al. (1989)

As in TRA, the original TAM assumes that behavioural intention primarily determines users' actual acceptance or adoption of specific technology. However, Davis argues that computer users' PEOU and subjective norms (SN) do not determine their BI but that these are determined by perceived usefulness and attitude. Davis (1986) argued that people form intentions to adopt (or not adopt) technology because they expect both benefits and costs from the adoption of the technology. In TAM, Davis (1986) argues that PEOU and PU determine users' attitudes toward technology. He also argues that users' attitudes toward the technology can mediate the influence of PEOU and PU on behavioural intention. Moreover, Davis et al. (1989) argue that PU and PEOU mediate

the effect of external variables on both attitudes and behavioural intentions.

Mathieson (1991) compared TAM with TPB in an empirical study of 262 management students. The technology test was a computer spreadsheet programme or calculator. The differences between TAM and TPB were the degree of generality, the social factor included in TPB, and the different treatments of behaviour control. Mathieson concluded that both models explain intention well, but that TAM explains variance more effectively, while TPB provided more specific information related to the system's performance than the general deliverability of TAM. In addition, he concluded that TAM was easier to use than TPB.

As with TRA and TPB, Davis et al. (1989) considered a two-step process for the formulation of BI. In TRA, attitudes and subjective norms are the core influencers in behavioural intention. Like TRA, TPB includes attitude and subjective norm and adds the PBC for the three determinants of behavioural intention, while in the original TAM behavioural intention is determined by attitude and perceived usefulness. In the three models attitude was considered an important determinant of behavioural intentions. However, unlike the other two models, the original TAM assumes that individuals' attitudes toward technologies are determined by their perceptions of the usefulness and ease of use of the technology. Both TRA and TAM were specifically developed for predicating and explaining an individual's acceptance in voluntary settings. From the perspective of voluntary use, individual choice is dependent upon an individual's beliefs.

TAM and TPB share points of similarity in that they both are derived from TRA and assume that individual differences are based on the influence of attitude, behavioural intention and usage only via the mediating variable of beliefs. Yet, later on, attitude was excluded from TAM but is still part of TPB. Although TAM and TPB share some similarity, they are different from each other in that TAM does not include SN and PBC as determinants of BI. However, the exclusion of the SN from TAM can be considered as not a limitation given the mixed results in the literature about its significance in

predicting BI (Taylor & Todd, 1995a; Lin et al., 2007). However, the omission of PBC from TAM is considered a major limitation (Venkatesh et al., 2003). In spite of this limitation, TAM has advantage over TPB in that the later version of TAM excludes attitude that showed partial mediated effect at the time of creation (e.g., Davis et al., 1989). This exclusion made the TAM more parsimonious. Both TPB and TAM proved to be quite successful in themselves, but each of them has its advantages over the other one. According to Mathieson et al. (2001), in most cases TAM is easier to apply when predicting IT usage, but TPB includes more effects, which may be important in certain situations. In comparing the exploratory power of TAM compared to the other models, Taylor and Todd (1995b) compare TBP, TAM, and the decomposed theory of planned behaviour (DTPB) and found that DTPB and TPB gave more explanation than TAM. Nevertheless, they believe that these results should be interpreted cautiously because of the trade-off between complexity and explanation power. Although DTPB and TPB have more explanation power, TAM is more parsimonious. On the other hand, in their comparison of TRA with TAM in terms of how both models measured MBA students' relative facility with word processors, Davis et al. (1989) found that TAM better explained the intention of the users than did TRA.

Again, in comparing the TAM with innovation diffusion theory (IDT) we see that the models are driven from a different perspective, but to some extent they share similar conceptualisations in some of their core constructs. For example, the relative advantage in IDT is often considered similar to PU and its complexity to be opposite to PEOU's. Therefore, it can be argued that TAM to some extent complements or confirms the theoretical foundations of IDT (Chen et al., 2002).

The wide use of TAM is attributed to the fact that it has been designed to provide enough explanation and prediction and also that it is parsimonious and has been specifically designed to predict technology usage in different systems in a wide range of organisations and cultures (Yousafzai et al., 2007a). Studies have indicated that TAM is a reliable and valid model for predicting and explaining technology adoption or

acceptance behaviour (Segars & Grover, 1993; Taylor & Todd, 1995a). TAM was developed in the USA but has spread all over the world. The first attempt to test it outside North America was made by Phillips et al. (1994) whose study validated the use of TAM in China. The authors suggested that cultural convergence has a significant positive effect on TAM through PEOU.

Several studies have used TAM to investigate users' acceptance or rejection of various technologies. Other studies extended the TAM by including other variables such as perceived credibility (Wang et al., 2003), gender difference (Gefen & Straub, 1997), and enjoyment (Al Gahtani & King, 1999). TAM has been tested many times in relation to trust issues. Gefen et al., (2003) proposed an extension of TAM that included trust mechanisms to increase the adoption and usage rate of customers. Factors such as national culture were explored by Veiga et al. (2001) who concluded that TAM has shown predictive utility across a wide range of technological contexts, and it is time to include a cultural dimension that incorporates culture into TAM. In the Internet context, TAM has been explored with respect to website acceptance (Heijden, 2003), and virtual learning (Teo et al., 2003). The results indicated TAM's stable exploratory power in different environments. Teo et al. (2003) concluded that TAM was supported and "*information accessibility*" and "*community adoptability*" were significant predictors of PU and PEOU and thus intention. They also positioned "*sense of belonging*" as a mediator between PU and PEOU and intention of use.

In an online banking context, Gerrard and Cunningham (2003) noted that the importance of PU depended on the banking services offered such as applying for a loan, checking bank balances, transferring money abroad, obtaining information on mutual funds, and paying utility bills. In addition, in their study of 227 Bangladeshi private bank customers Jahangir and Begum (2008) found that PU, PEOU, security and privacy have a significant impact on consumers' adoption of online banking. They also found that customers' attitudes to online banking are significantly and positively related to customers' adoption of those attitudes.

TAM has become well established over the last 30 years, and is considered to be a powerful predictive model as regards user technology acceptance. However, not enough studies have validated the full model original constructs (Venkatesh & Davis, 2000). However, most studies have confirmed TAM's predictability. Mathieson (1991) states that TAM's key limitation is its inability to reveal how its two main variables, PU and PEOU, are determined and how they could accelerate users' usage and acceptance of technology. Therefore, there is a need to extend TAM to include more variables that may help in revealing the formation of such perceptions. Ma and Liu's (2004) meta-analysis of TAM through analysing 26 studies tried to assess the validity of this model, but this analysis did not provide a complete answer as the authors did not use any moderator analyses for the different study variables.

Regarding the studies which have been carried out so far utilising TAM as a predictor of users' acceptance of new technology, *“researchers have raised concerns about the generalizability of student-based findings across the consumer population”* (Yousafzai et al., 2007a: 270). Moreover, studies using TAM have often emphasised the importance of measuring behavioural intention rather than actual behaviour, so these studies assume that BI will lead to actual behaviour. In their meta-analysis of 93 studies that have used the TAM (Yousafzai et al., 2007b), they show that 43 per cent of these studies *“have focused solely on determinants of intentions to use IS, and thus have not validated their model in respect to prediction of actual behaviour”*. Because of TAM's popularity, several researchers have used it in different contexts. Tables 2-3 (a, b, c) summarise some of these studies.

TAM has received great attention over the last few years. Several studies have been conducted using it. Some of these studies were interested in assessing its predictability within either Western or Eastern cultures, while others studies go further by proposing some extensions to TAM as a way to overcome its limitations. For instance, some researchers (Sun & Zhang, 2006; Venkatesh et al., 2003; Agarwal &

Prasad, 1998) think that adding moderators to the TAM model might solve some of its limitations. In their extension of TAM, Agarwal and Prasad (1998) introduced the mediating effect of individual differences, with external variables influencing the model variables. They found that only three of the five individual variables had a significant impact on PEOU. With regard to PU, only participation in training had a direct impact, while the other variables had an indirect influence through the PEOU. On the other hand, Sun and Zhang (2006) suggested extending the TAM by including ten factors as moderators. These moderators are classified as follows: individual factors (cultural background, gender, age, experience and intellectual capacity), technological factors (individual versus group technologies, factors related to the purpose of using technology: work versus entertainment oriented factors and technologically complex factors) and organisational factors (the nature of professions and voluntariness). Sun and Zhang (2006) proposed that the effects of these factors should be studied within TAM.

Table (2-3a). Research related to technology acceptance model (TAM)

Study	Technology investigated	Sample	Research objective	Results
Davis (1989)	email & file editor; graphic systems	112 employee 40 evening MBA students	Development of valid measurement scale for PU & PEOU	Two 6-item scales with high reliability for the PU & PEOU.
Davis et al. (1989)	Word processor	107 MBA students.	Comparing TRA to TAM in predicting intentions to use and the role of attitude in mediating the effect of beliefs on intentions	Both models postulated that BI is the major determinants of usage behaviour. Attitude has no mediating effect between PU or PEOU and BI.
Davis et al. (1992)	Word processing programme+ Graphic system	200 + 40 MBA students	Testing enjoyment as a determinant of computer use	Usefulness & enjoyment explained 62% and 75% of variance in usage intentions and were found to mediate the effects on usage intention of PEOU & output quality.
Adams et al. (1992)	Voice and email	Software applications	118 employees / 10 different organisations 73 users	Evaluating the psychometric properties of PU & PEOU while examining the relations between PU, PEOU and system usage.
Igbaria et al. (1995)	Microcomputer usage	236 part-time MBA students	Investigating the impact of individual, organisational, and system characteristics on usage through beliefs	Confirmed the effect of external Variables on usage in addition to confirming previous relations between TAM constructs.
Davis and Venkatesh (1996)	WordPerfect + Lotus	182 + 214 + 312 university students	Testing for any discernible effect on the psychometric properties of TAM's measurement	The three experiments showed that TAM measures in the group format best predict and explain user acceptance of IT.
Davis and Venkatesh (1996)	108 students	3 experiments 3 systems	Testing TAM and experience. Exploring the antecedence of PEOU	CSE and objective usability were significant determinant of PEOU. Experienced vs. non-experienced users/ training issues.
Szajina (1996)	Electronic mail	61 students	A test of the technology acceptance model, using longitudinal study. PU, PEOU=> ITU=> usage. Post implementation vs. reimplementation	Confirmed the TAM and reported a comparison of actual vs. reported measure of usage. R2=0.52/0.14. Recommended the incorporation of experience and caution with respect to usage measure.

Table (2-3b). Research related to the technology acceptance model (TAM)				
Study	Technology investigated	Sample	Research objective	Results
Dishaw and Strong (1999)	System analysts, CASE tool	60 programmer	Contrasted the TAM and task technology fit model. Used attitudes in the model	Task characteristics are integrated to yield a better explanation of variance in IT utilisation. The change in R2 value is 0.36 => 0.51.
Agarwal and Prasad (1999)	Software applications in PC	230 technology literate employees	Investigated the role of personal differences with regard to technology acceptance	Validated the relationship between individual differences and technology acceptances mediated by the TAM beliefs.
Venkatesh (2000)	Online help system Multimedia system Windows 95	70 employees 160 employee 52 employees	Determinants of PEOU based on anchoring (self-efficacy, facilitating conditions, computer anxiety, and computer playfulness) and adjustment perspective, moderated by experience	Anchor elements were used to form PEOU about a new system and with increased experience adjustments play an important role in determining system specific PEOU.
Venkatesh and Morris (2000)	Data & information retrieval system	246 employees from five different organisations	Investigating SN, experience & gender differences in the context of individual adoption & usage of technology at the work place	PEOU and SN influence women in making their adoption decisions while men consider PU only.
Kwon and Chidambaram (2000)	Cell phone adoption	176 responses	Included: gender, age, nationality, occupation, income, EOU, apprehensiveness, extrinsic and intrinsic motivation, social pressure, extent of use.	Ease of use was a significant determinant of cell phone use. Other findings reported.
Heijden (2003)	Website (portal)	887 responses	TAM model + perceived attractiveness and enjoyment. PA=> PU, PEOU=> ATT=> ITU=> Usage.	The data fully supported the TAM. ITU explained usage. ATT explained ITU. PEOU and PU equally explained ATT.
Source: the researcher; Al-Qeisi (2009); Al Hajri (2008); Abu Shanab (2005)				

Table (2-3c). Research related to the technology acceptance model (TAM)

Study	Technology investigated	Sample	Research objective	Results
Teo et al. (2003)	Six virtual learning communities	69 subjects	Information accessibility, community adoptively => PU, PEOU=> ITU, sense of belonging => ITU, other mediations.	Information accessibility and community adoptively have significant influence on ITU. TAM was supported by data.
Wixom and Todd (2005)	Data warehouse predefined reporting software.	456 employees from seven organisations from different industries.	The model explicitly distinguish the system based beliefs and attitudes (satisfaction perspective) from behavioural beliefs and attitudes (technology acceptance perspective).	Results supported the application of information & system satisfaction as external variables to traditional TAM.
Ha and Stoel (2009)	E-shopping quality for apparel products.	298 college students.	This study integrates e-shopping quality, enjoyment, and trust into a technology acceptance model (TAM) to understand consumer acceptance of e-shopping.	Consumer PU and ATT toward e-shopping influence IB. PEOU ease of use does not influence ATT toward e-shopping. Shopping enjoyment and trust play significant roles in consumers' adoption of e-shopping.
Lu et al. (2009)	Instant messenger.	250 responses, including 65 from high school students, 121 from undergraduates, and 64 from the working profession.	Examining the intrinsic and extrinsic motivations that affect Chinese users' acceptance of IM (definition needed) based on the theory of planned behaviour (TPB), the technology acceptance model (TAM),	Users' upend perceived enjoyment significantly to influence their ATT toward IM, which in turn influences their BI. PU, users' concentration, SN and perceived BC, have significant impact on the BI. Users' intention determines their actual usage behaviour.
Holden and Karsh (2010)	The paper reviews the application of such (TAM), on health care.	Reviewed 16 data sets analysed in over 20 studies of clinicians using health IT for patient care.	Studies differed greatly in samples and settings, health ITs studied, research models, relationships tested, and construct operationalisation.	Findings show that TAM predicts a substantial portion of the use or acceptance of health IT, but that the theory may benefit from several additions and modifications.
Source: the researcher; Al-Qeisi(2009); Al Hajri (2008); Abu Shanab et al. (2005)				

Table (2-3d). Research related to the technology acceptance model (TAM)

Study	Technology investigated	Sample	Research objective	Results
Sanchez-Franco (2010)	Web CT.	431 students.	Assessing motivational design aspects during the electronic learning process.	Results provide support that PU, PEOU and flow lead the learners toward developing high intentions to use the web CT; Perceived affective quality exhibits a relevant interaction effect on the model.
Lee and Chang (2011)	Online code sign process.	749 responses.	Explaining consumer response to the online code sign process.	Results of the perceived enjoyment and control constructs in the extended TAM suggest the importance of their addition to build a model to explain consumer attitudes toward the online code sign process.
Heyder and Theuvsen (2012)	Traceability systems.	234 companies.	This study seeks to answer what exactly determines firms' investments in traceability systems.	High external pressure to implement improves the image of tracking and tracing systems in the sense that their use enhances a firm's status, increases the intention to use those systems and fosters their perceived usefulness in the eyes of agribusiness executives.
Chang et al., (2012)	Websites of travel agencies.	1279 responses.	Investigating the relationship between website quality and website user's behavioural intentions in the travel agency sector.	User's expectation of the website quality will decrease the perceived use of ease and usefulness toward the website and then influence the website user's behavioural intentions. The results also suggest that perceived ease of use, perceived usefulness, and attitude are acting as important mediators within the model.
Source: the researcher; Al Qaisi (2009); Al Hajri (2008); Abu Shanab (2005)				

Wixom and Todd (2005) indicated that a TAM extension could be categorised in three primary ways. The first category represents studies that include factors from related models (such as subjective norm, and perceived behavioural control from TPB).

The second category represents studies that include alternative or extension variables. Most of these variables come from theories such as IDT. The third category of studies represents examining external variables affecting perceived ease of use and perceived usefulness such as personality traits and demographic characteristics.

As with any other behavioural adoption model, TAM cannot escape its limitations. The most reported limitations of TAM are as follows: TAM respondents report usage and TAM assumes that the actual usage could be reflected by self-reported usage. The second limitation is attributed to the sample choice, assuming that the respondents are professional users or a university student sample, which would limit the generalisation of results (Legris et al., 2003). The third limitation is that limited guidance is provided by TAM in regard to how intention is influenced through design and implementation (Taylor & Todd, 1995c; Venkatesh et al., 2003). Fourth, TAM did not reflect different task environments (Yousafzai et al, 2007b). Moreover, Sun and Zhang (2006) refer to the model's explanatory power and the contradictory relationship between variables as two major shortcomings of TAM studies. In their meta-analysis, Sun and Zhang (2006) examined data from 55 articles, and found that most of the research samples consisted of students, and thus were unrepresentative of the workplace population. Their meta-analysis also indicated that there is sensitivity to the explanatory power of TAM in two areas: the relatively low explanatory power of the model and the variation of explanatory power because of the different methods used. On the other hand, on some occasions, the relationships between the major TAM variables showed a contradictory pattern. For instance, in some studies, the relationships of TAM variables were statistically significant, referring to TAM as a robust model, while in other studies the results were the opposite. For instance, PEOU's effects on BI and attitude were inconsistent. Some studies reported significant positive relations, while others denied such relationships. In addition, in their meta-analysis Lee et al., (2003) cited other limitations of TAM, for example, that TAM studies are usually used only in one department or a single subject such as one organisation, or for MBA students. In addition, they mention that they use a cross-sectional study, testing of one task and not

combining the tasks and testing them with the target IS. Yousafzai et al. (2007a: 278) conducted another meta-analysis of TAM. They concluded that many TAM model studies are described by “*different methodologies and measurement factors*” which result in contradictory or confusing findings (Yousafzai et al., 2007a). According to Yousafzai et al., (2007a) 47 per cent of the 145 researches included in their meta-analysis “*measured self-reported usage*”, compared to only 9 per cent of the studies actual measured usage. Moreover, more than half the studies (59 per cent) were conducted with non-students, while the rest were conducted with students.

With the importance of TAM in predicting users adoption of technology, Dabholkar and Bagozzi (2002) emphasise the importance of distinguishing between marketing and work settings. Consumers in marketing settings participate in e-service production and delivery rather than owning the system equipment, as in a work setting. While it may be mandatory for workers in a work setting to use the system because of management intervention, consumers in a marketing setting have the chance to choose among different available alternatives. This makes using the system more voluntary (Lin et al., 2007). Davis (1989) developed and tested TAM in a mandatory working environment. Thus, there was a question about its ability to predict users’ patterns of adoption of technology in more voluntary environments. Therefore, attitude has been excluded from TAM in some research which has used such models to predict users’ acceptance of technology. According to Davis et al. (1989)’s study, such exclusions were enacted in a volitional environment, suggesting that the exploratory power of TAM is more parsimonious without the mediating attitude construct (Yousafzai et al., 2007 a). Thus, the previous studies show that the TAM model is a good predictor of users’ technological behaviour. However, there are mixed results with respect to the adequacy of using only two variables to predict users’ adoption of technology. Studies of technology acceptance usually question the influence of the social and the economical environment on consumers’ adoption behaviour. Many variables may be involved that can interact to influence consumers’ behaviour. Therefore, it is not rational to simplify the behaviour of the users of the technology and link consumers’ behaviour to a small

number of variables. In addition, consumer adoption decisions cannot be looked on purely as personal decisions as there are social influences that may affect them (Dabholkar & Bagozzi, 2002). A person is an element in the environment in which he or she interacts with and is affected by other elements. Humans are social beings by nature, and are often influenced by people around them. Moreover, the users of the technology often have personal characteristics that may limit the benefits available from the technology and this may affect their assessment of its ease of use or its advantage. The users' previous experience, their innovativeness, their beliefs, and their awareness of the technology are important variables that may contribute to technology acceptance decisions. Furthermore, other factors related to the innovation such as the perceived risk, the trustworthiness of the provider of the product or the service, the ability to use the innovation on a trial basis, and the ability to observe the innovation are important variables that influence consumers' decisions to use innovations (Rogers, 1983). TAM ignores such factors. Moreover, in the development of TAM, Davis (1989) ignored the importance of the influence of subjective norms on users' adoption decision. In ignoring such factors, Davis (1989) believes that a technology adoption decision is a purely individual decision. This is not, however, the case in real life, as most consumers involve other family members in their purchasing and usage of products and services. Moreover, consumers usually refer to other ways of seeking advice in their purchasing and usage decisions. Therefore, it is important to involve social influences and other cultural and technology characteristics as an important variable in consumers' adoption behaviour.

2.2.4 Revised technology acceptance model 2

More than ten years after the introduction of the original TAM, and in an attempt to overcome its limitations, Venkatesh and Davis (2000) developed TAM2 as an extension of the TAM model. In TAM2, perceived usefulness and usage intentions can be explained in terms of social influence and cognitive instrumental processes. As mentioned earlier, TAM is based on the TRA, but TAM did not include the subjective

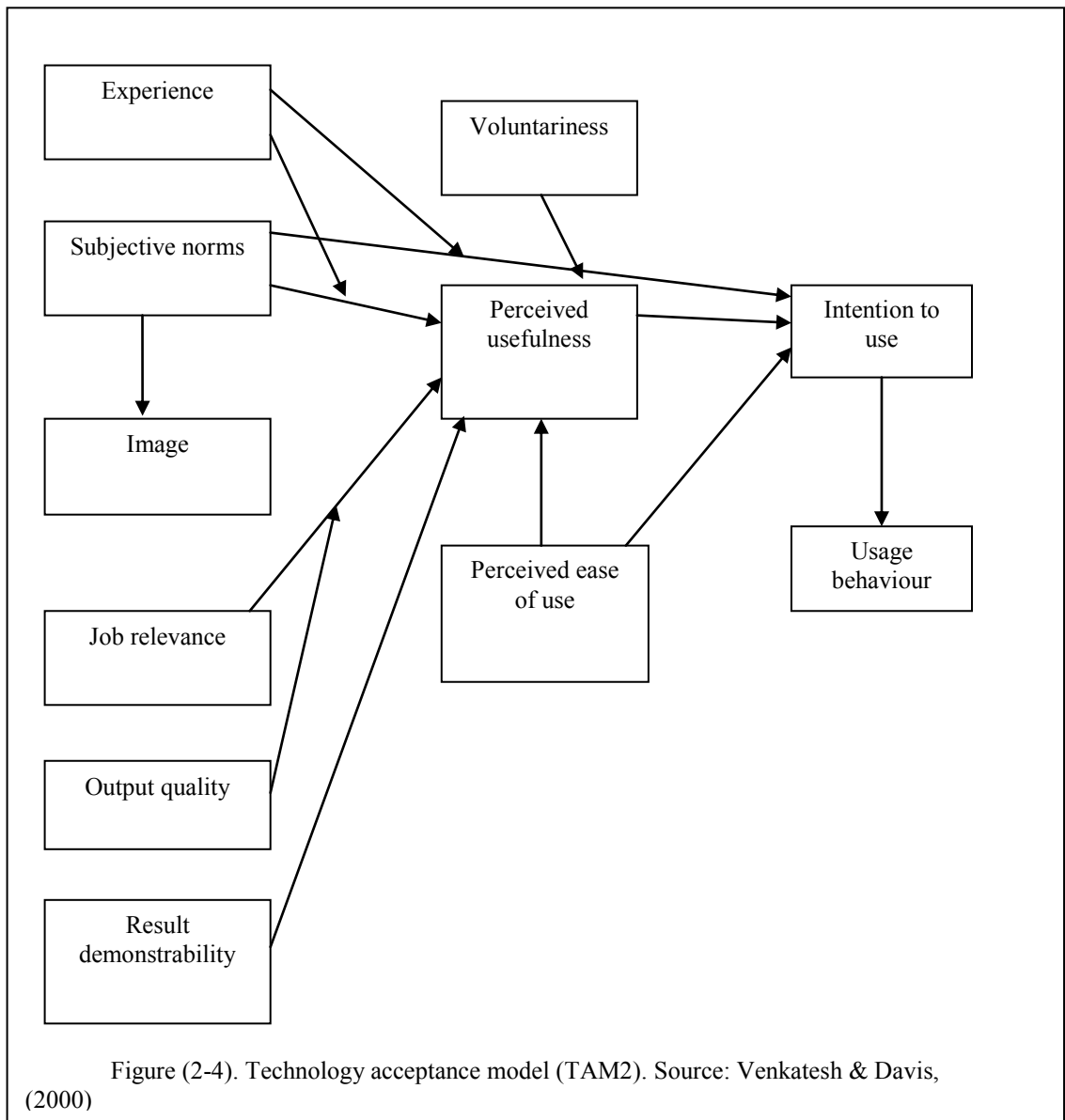
norms variable. Several studies have been conducted using TAM as their theoretical basis. Some of these studies have compared the TAM to the TRA and to other models used in explaining technology acceptance. The studies agreed on the need to extend the TAM by adding other constructs to help in determining the major constructs, as the original TAM lacked such determinants for PU and PEOU. TAM2 is considered an extension of TAM. TAM2 includes the following variables: usage, intention to use, perceived usefulness, experience, social influence processes, and cognitive instrumental processes. TAM2 was tested by Venkatesh and Davis who showed that it can explain 34-52 percent of variance in usage intention. Figure (2-4) shows TAM2 as proposed by Venkatesh and Davis (2000). Figure (2-4) indicates that PEOU and PU are used as the main mediators between the set of external variables. This also shows that both of the social influence measures and the cognitive instrument measures significantly influenced user acceptance. In TAM2, “*perceived usefulness*”, “*image*” and “*intention to use*” and “*usage behaviour*” are the final dependent variables.

The important change between the original TAM and TAM2 was the change in antecedents of PU. TAM2 predicted PU by using external factors but none of these is used to predict PEOU. The antecedents of PU are shown in the figure (2-4). These are result demonstrability, output quality, job relevance, subjective norms, image and perceived ease of use. With reference to TAM2, Venkatesh and Davis (2000) explained the role of subjective norms in the context of computer usage. They explain that TAM2 assumes that subjective norms either have a direct influence on intention or influence it by influencing PU. The model also assumes that voluntariness moderates the influence of SN on intention. This allows it to distinguish between mandatory versus voluntary acquiescence in organisational settings. Thus, the direct influence of subjective norms on behavioural intention occurs only in a mandatory setting.

In TAM2, experience is assumed to moderate the relationship between subjective norms and BI and experience is assumed to moderate the relations between subjective norms and perceived usefulness. Moreover, TAM2 assumes that the experience gained

during system usage will weaken the relationship between subjective norms and BI. In addition, experience is expected to have the same effect on the subjective norm-perceived usefulness relation. TAM2 also proposes that people usually rely on the match between their job goals and the outcomes of using the system as a basis for their evaluation of the system's usefulness. It also assumes that if result demonstrability and output quality are effective they will have positive effects on perceived usefulness.

TAM2 (Venkatesh & Davis, 2000) is considered as extension of original TAM (Davis et al. 1989). Like TAM, TAM2 assumes that actual behaviour is determined by behavioural intention and that perceived usefulness determines BI. Similar to TRA, TPB, and TAM, TAM2 assumes that BI leads to actual behaviour. Unlike the original TAM, which did not consider the influence of the time in technology acceptance, Venkatesh and Davis (2000) aim to explain the changes in individuals' technology acceptance over time as individuals gain experience in using the targeted technology.



Some TAM2 variables were similar to those of innovation diffusion theory (IDT), for example, image, voluntariness, relative advantage and results demonstrability. Perceived ease of use in TAM2 is considered as the opposite to the complexity variable in IDT. The other difference between TAM2 and IDT is that TAM2 predicts an individuals' behavioural intention and actual use of technology, while the IDT is interested in studying the rate of adoption of technology at the levels of society, organisation and the individual. TAM2 assumes that voluntariness, and results

demonstrability influence BI indirectly through perceived usefulness while IDT assumes a direct effect of these variables in the adoption rate. Although TAM2 was presented as solution to overcome the limitations of TAM and to provide more detailed evaluation and clear view of the issues that were hidden in TAM, it did not overcome TAM's inherent limitations.

Like the original TAM, TAM2 has been used in various studies. For example, in their study to test the applicability of TAM2 for predicting the acceptance of Internet and Internet-based health applications by 89 paediatric physicians, Chismar & Wiley-Patton (2003) partially confirmed the applicability of the model. The findings did not support the PEOU-BI relationship. This was because PEOU did not predict intention to use while PU was a strong determinant of intention to use.

2.2.5 Revised technology acceptance model 3

According to Venkatesh and Bala (2008: 276), TAM has received high recognition. They state, "*the Social Science Citation Index listed over 1,700 citations and Google Scholars listed over 5,000 citations to the two journal articles that introduced TAM*". Despite this, TAM has suffered from several limitations (discussed in section 2.2.3 in this chapter). Lee et al. (2003) point out that it is not only important to know how PEOU and PU facilitate the adoption of technology, but also to know what makes technologies easy to use and useful (Lee et al., 2003). Even though TAM shows that PEOU and PU are the most important predictors of users' attitudes toward information technology (IT), it fails to explain what the determinants of the PEOU and PU are. Therefore, in TAM3 Venkatesh and Bala (2008) aim to investigate the determinants of perceived usefulness and perceived ease of use. In their development of TAM3, Venkatesh and Bala (2008) combined TAM2 (Venkatesh & Davis, 2000) and the model of the determinants of perceived ease of use (Venkatesh, 2000). TAM3, as shown in figure (2-5), proposes three theoretical extensions beyond the model of the determinants of perceived ease of use and the TAM2. With regard to TAM3, Venkatesh and Bala (2008: 277) maintain the

relationships suggested by Venkatesh & Davis (2000) and Venkatesh (2000). In addition, they suggest new determinants of ease of use, so that the determinants of the constructions PEOU and PU would not influence each other. Thus, “*TAM3 does not posit any crossover effects*”.

Venkatesh and Bala (2008) noted that in TAM3 the relationship between the perceived usefulness and its determinants have a theoretical basis (Venkatesh & Davis 2000; Venkatesh, 2000). However, with regard to the relationship between the perceived ease of use and its determinants, there is no theoretical base. As figure (2-5) indicates, the determinants of perceived usefulness are subjective norms, image, job relevance, output quality, and result demonstrability. Table (2-5) presents a list of the determinants of perceived usefulness along with the definition of each determinant.

Table (2-4). Determinants of perceived usefulness

Determinants	Definitions
Subjective Norm	The degree to which an individual perceives that most people who are important to him think he should or should not use the system (Fishbein & Ajzen, 1975a; Venkatesh & Davis, 2000).
Image	The degree to which an individual perceives that the use of an innovation will enhance his or her status in his or her social system (Moore & Benbasat, 1991).
Job Relevance	The degree to which an individual believes that the target system is applicable to his or her job (Venkatesh & Davis, 2000).
Output Quality	The degree to which an individual believes that the system performs his or her job tasks well (Venkatesh & Davis, 2000).
Result Demonstrability	The degree to which an individual believes that the results of using a system are tangible, observable, and communicable (Moore & Benbasat, 1991).
Source: Venkatesh and Bala (2008: 279).	

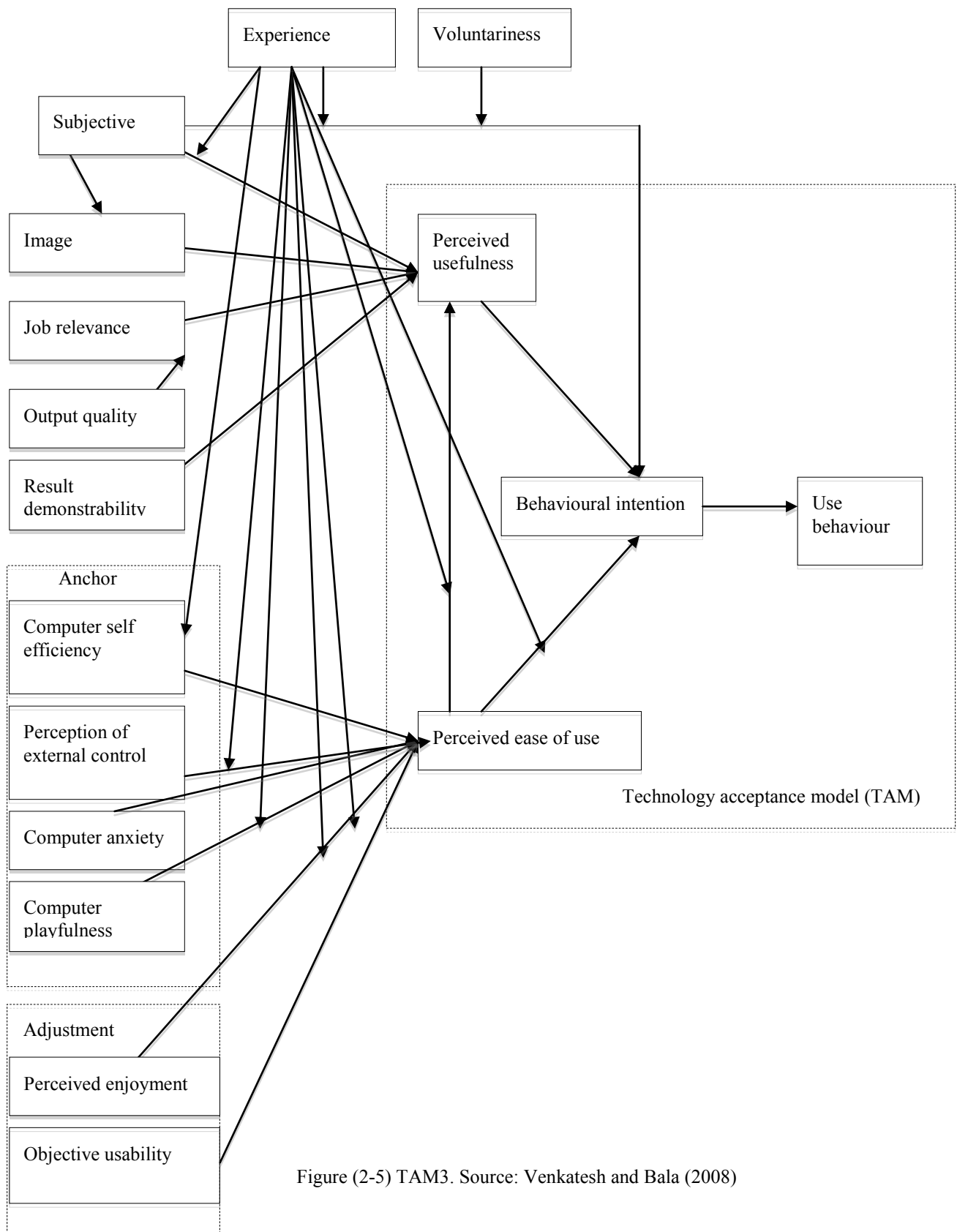


Figure (2-5) TAM3. Source: Venkatesh and Bala (2008)

With regard to perceived ease of use, Venkatesh and Bala (2008) propose that being closely associated with individuals' beliefs in self-efficacy and procedural knowledge requires hands-on experience and efficient execution of skills. Table (2-5) presents a list of the determinants of perceived ease of use along with a definition of each determinant. With regard to the TAM3, Venkatesh and Bala (2008: 281) assume that in Venkatesh (2000) and Venkatesh and Davis (2000) there are three relationships that have not been empirically tested. These are, *“that experience will moderate the relationships between (i) perceived ease of use and perceived usefulness; (ii) computer anxiety and perceived ease of use; and (iii) perceived ease of use and behavioral intention.”* The analysis of TAM3 suggests that the more experienced the user is in the system, the more the user will accumulate information about whether the system is easy to use or not.

Venkatesh and Bala (2008: 282), suggest that with increasing experience, perceived usefulness will be stronger *“as users will be able to form an assessment of their likelihood of attaining high-level goals (i.e., perceived usefulness) based on information gained from experience of the low-level actions (i.e., perceived ease of use)”*.

Table (2-5). Determinants of perceived ease of use

Determinants	Definitions
Computer Self-Efficacy	The degree to which an individual believes that he or she has the ability to perform a specific task/job using the computer (Compeau & Higgins, 1995a, 1995b).
Perception of External Control	The degree to which an individual believes that organisational and technical resources exist to support the use of the system (Venkatesh et al., 2003).
Computer Anxiety	The degree of “an individual’s apprehension, or even fear, when she/he is faced with the possibility of using computers” (Venkatesh, 2000: 349).
Computer Playfulness	“...the degree of cognitive spontaneity in microcomputer interactions” (Webster & Martocchio, 1992: 204).
Perceived Enjoyment	The extent to which “the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use” (Venkatesh, 2000: 351).
Objective Usability	A “comparison of systems based on the actual level (rather than perceptions) of effort required to complete specific tasks” (Venkatesh, 2000: 350–351).
Source: Venkatesh and Bala (2008: 279).	

With regard to TAM3, it has also been suggested that experience moderates the effects of computer anxiety on perceived ease of use. Venkatesh and Bala (2008) assume that the more experienced a user is, the less anxiety regarding perceived ease of use of computers they will feel. Moreover, Venkatesh and Bala (2008) suggest that experience moderates the effect of perceived ease of use on behavioural intentions. They believe that the relationship between perceived ease of use of behavioural intentions will be weaker as the user gains more experience of the system. In order to develop their model, Venkatesh and Bala (2008) conducted longitudinal field studies that lasted for 5 months. The data for their studies were collected from four organisations. In their studies, they introduced different ITs to the study sites. Venkatesh and Bala (2008) argue that such an approach can add to the potential generalisability of their findings. In their longitudinal study, Venkatesh and Bala (2008) found that perceived ease of use, subjective norms, image, and result demonstrability were significant predictors of perceived usefulness at all times. Their results indicated that output quality and job relevance had an interactive effect on PU in that, with increasing output quality, the effect of job relevance on PU was stronger. In addition, the results indicated that the effects of subjective norms on PU have been moderated by experience, that the effect becomes weaker with increasing experience, and that the effect of image on subjective norms was significant at all points of measurement.

Overall, TAM3 was able to explain between 52 percent and 67 percent of the variance in PU across different models and times. Concerning the ability of the TAM3 to explain and predict the PEOU, the results indicated that levels of computer self-efficacy; perceptions of external control, computer anxiety, and computer playfulness were significant predictors of PEOU at all points of measurement. The results indicated that none of the determinants of PU had a significant effect on PEOU. In addition, TAM3 was able to explain between 43 percent and 52 percent of variance in PEOU across different models and points of measurements. The results showed that perceived usefulness was the strongest predictor of behavioural intention at all times. While perceived ease of use was significant at two of the research sittings only, this weakness

in terms of significance could be attributed to the moderating effect of experience in the relationship between perceived ease of use and behavioural intention, as suggested by Venkatesh and Bala (2008). Venkatesh and Bala (2008) also found that experience moderated the effect of perceived ease of use on behavioural intention. They found significant interaction between subjective norms, experience, and voluntariness. They stated that TAM3 was able to explain between 40 percent and 53 percent variance in behavioural intention across different models and periods. The TAM3 has not received as much recognition as the TAM, and the TAM2. According to Tang and Chen (2011), TAM3 needs more empirical research and test its practical use.

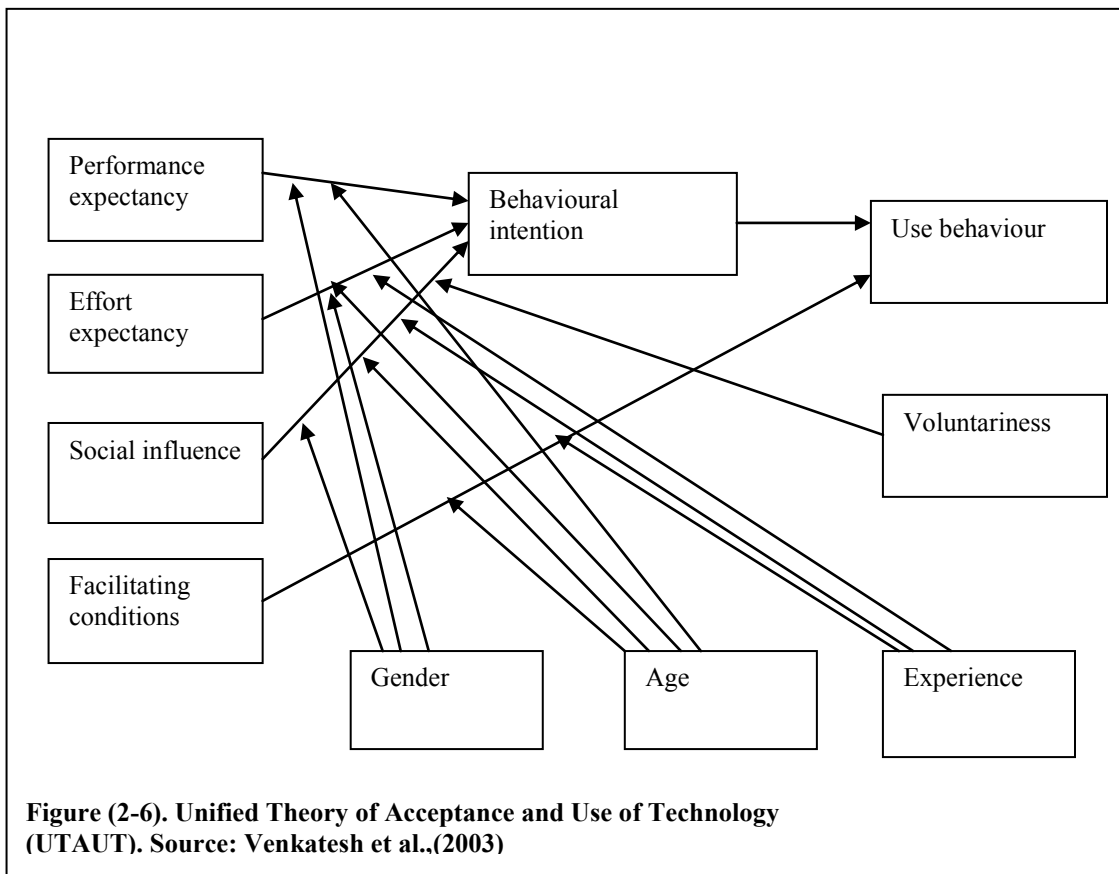
As discussed earlier in this section, TAM3 has taken the work of TAM2 (Venkatesh & Davis, 2000) further and tried to overcome of its limitations. This was done by including the determinants of perceived ease of use in addition to the determinants of perceived usefulness. Similar to TAM2, TAM3 tests the moderating effect of experience on the relations between PU determinants and PU. It also tests the moderating influence of voluntariness on the relationship between subjective norms and behavioural intention. But TAM3 goes further than TAM2 by testing the moderating effect of experience on the relations between the determinants of PEOU and PEOU. Compared with TRA, TPB, and the original TAM, TAM3 is similar to these models in its assumption about the direct effect of behavioural intention and actual behaviour. But unlike these models, TAM3 excludes the influence of attitudes in consumers' technology acceptance decision. Compared with TAM, TAM2 and IDT, TAM3 is considered more comprehensive because it presents not only the determinants of PU but also the determinants of PEOU. Although including extra variables to enhance the predictability of the TAM3 was useful, nevertheless it causes more complexity in the model and TAM3 still suffers from the limitation of TAM2 as it introduced the effect of external variables through their influences on PU and PEOU rather than studying their influences throughout the model. Both TAM2 and TAM3 inherited the original TAM assumption that external variables influence the behavioural intention indirectly through PU and PEOU.

2.2.6 Unified theory of acceptance and use of technology

Venkatesh et al. (2003) indicated that research into user acceptance of new technology, which has its roots in sociology and psychology, can routinely explain over 40 percent of variance in individual intentions to use technology. Therefore, they integrated eight models that are related to the information technology acceptance domain. The theory comes with new labelling of constructs used and a combined set of instruments for the proposed constructs. In order to formulate the UTAUT, they integrated the TRA, TAM, TPB, and the decomposed TPB, IDT, social cognitive theory SCT, the motivational model, the model of personal computer (PC) utilisation, and the combined TAM and TPB model in order to explain more of the variance in individual intentions to use technology. Venkatesh et al. (2003) claimed that UTAUT explains up to 70 percent of variance in intention. The UTAUT hypothesised four main indicators influencing a set of relationships as moderating factors. The moderating factors were age, gender, experience and voluntariness. The theory supported the direct effect of performance expectancy on behavioural intention with a stronger effect for male and younger workers. Also, effort expectancy influenced behavioural intention with stronger effects for women, older workers, and those with limited experience. Social influence influenced behaviour intention with a stronger effect on women and older workers under conditions of mandatory use, and for those with limited experience. Finally, the influence of facilitation conditions on behavioural intention was not significant because of the effect of effort expectancy, but it significantly affected usage, with a stronger effect on older workers and those with more experience.

UTAUT has been developed to overcome the limitations of the previous models in technology acceptance (e.g., TAM, TAM2, and IDT). UTAUT contain several constructs outlined in the TRA, TPB, TAM, TAM2, and IDT. In UTAUT, Venkatesh et al. (2003), referred to perceived usefulness (Davis et al. 1989), extrinsic motivation (Davis et al. 1992), and job-fit (Thompson et al. 1991), relative advantage (Moore & Benbasat, 1991), outcome expectation (Compeau & Higgins, 1995), as performance

expectancy. They also refer to perceived ease of use (Davis et al. 1989; Moore & Benbasat, 1991), complexity (Thompson et al. 1991) as effort expectancy. In UTAUT, social norm is similar to social norm (Ajzen, 1991), social factor (Thompson et al. 1991), and image (Moore & Benbasat, 1991). In addition, facilitating conditions in UTAUT are rooted to perceived behavioural control (Ajzen, 1991), facilitating conditions (Thompson et al. 1991), compatibility (Moore & Benbasat, 1991). Like TRA, TPB, TAM and TAM2, UTAUT assumes that behavioural intention determines the actual behaviour. However, unlike TRA, TPB, and original TAM the UTAUT excluded the influence of attitude from the model. Also unlike the TAM, which did not assume direct influence of PEOU in BI, the UTAUT assumes that effort expectancy has a direct influence on BI. Moreover, the UTAUT included the social , time and perceived behavioural control influences. These factors were not tested in the original TAM. Unlike its previous technology acceptance models, UTAUT included the moderating effects of both age and gender. Although TAM2 has included the moderating effect of time and voluntariness in the relationships between SN and BI and between SN and perceived ease of use, UTAUT included the moderating effects of these two constructs along with the moderating effects of age and gender in almost all relationships in the UTAUT model.



The UTAUT model figure (2-6) has been adopted and tested by several researchers. Table (2-6); presents some of the research that uses UTAUT. For instance, Li and Kishore (2006) test for the invariance of the new measurement scale of the UTAUT. In their search to test whether the key variables in the UTAUT model are constant across different subgroups, they studied the UTAUT model within the weblog system. They categorised the study groups according to the following demographic characteristics: the user’s general computing knowledge, gender, experience with weblogs, their specific weblog-related knowledge, and the usage frequency of weblogs. Li and Kishore (2006) assume that the UTAUT key variables will remain constant among different gender groups, different computing general knowledge users, users with low and high frequency use of weblogs and users with or without particular weblog knowledge/experience. The results of their study show that users with different experience, knowledge in computing and weblog use have the same interpretation of performance expectancy and effort expectancy.

Table (2-6). Research related to UTAUT

Study	Sample	Technology	Objective	Results
Al Gahtani et al., 2007.	722 knowledge workers	Desktop computer applications	To test a model in two cultures	The model explains 39.1% of intention to use variance, and 42.1% of usage variance.
Al Awadhi and Morris, 2008.	880 students	e-government	To explore factors that determine the adoption of e-government services in a developing country	PE, effort expectancy and peer influence determine IB. facilitating conditions and BI determine usage of e-government services.
Jong and Wang, 2009.	606 student	Web-based learning system	To determine technology acceptance of web-based learning system	PE, attitude, facilitating conditions, SE, and social influence have significant influence on behaviour intention. Behaviour intention, attitude, and social influence have direct impact on system usage.
Chiu et al. (2010)	412 buyers in Yahoo-Kimo's online	Online shopping	To test the extended model	The study shows that trust is a significant positive predictor of buyers' intentions to repeat purchases.
Curtis et al. (2010)	409 nonprofit public relations practitioners	Social media	Find out how nonprofit public relations practitioners are adopting social media tools and if they view them as credible	Women consider social media beneficial, whereas men exhibit more confidence in actively utilising social media.
Dwivedi et al., 2011	43 articles, reported in 43 published	Meta-analysis of UTAUT	Examine whether the theory is performing consistently well across various studies	Significant relationship between all constructs. Confirms the reliability of UTAUT.
Source: the researcher; Al Qaisi (2009); Al Hajri (2008); Abu Shanab et al., (2010)				

In their study of online stocking in the financial market, Huang and Wang (2005) used an extended UTAUT. In their extension of UTAUT, they added the personality trait construct to the model. Moreover, they suggest the important moderating role that personality traits play. The results of their first model design suggested that among the

five personality traits, the extraversion trait indirectly influences intention through its influence on the four key constructs of UTAUT. However, the openness trait indirectly influences intention through its influence on the effort expectancy construct and the facilitating condition construct. In regard to their second model design, the results unexpectedly indicated that the openness personality trait and Internet experience moderate the relationship between the performance expectancy and intention in regard to adopting online stocking with a negative effect. Moreover, they find that the agreeableness trait with Internet experience positively moderates the relationship between social influence and intention. In addition, the trait of conscientiousness with Internet experience negatively moderates the relationship between social influence and intention. These results show that neuroticism combined with Internet experience can have a significant positive influence on the relationship between facilitating conditions and intentions. Therefore, the authors recommended that future research might reconsider the moderators in the original UTAUT in order to supplement the model (Huang & Wang, 2005).

Carlsson et al. (2006) adopted the UTAUT for their examination of the factors that could influence individuals' adoption of mobile device and services. Their results indicate that effort expectancy and performance expectancy can directly influence intentions to use mobile devices but that this influence may become weak when attitude explains part of the intention to use the mobile device. They also found that social influences had a significant positive effect on intention, but that this influence was not maintained in all the models examined. On the other hand, the results showed that anxiety did not have a direct impact on intention but that its influence was mediated by performance expectancy and social influences. The results also indicated that attitude did not have an influence on intention, so confirming the assumption in the original model that the presence of attitude, performance expectancy and effort expectancy would not have a direct effect on intention.

2.2.7 Innovation diffusion theory (IDT)

The aim of this section is to broaden understanding of the theory behind the idea of diffusion of innovation. Rogers (2003: 5) defined diffusion of an innovation as “... *the process by which an innovation is communicated through certain channels over time among the members of social systems. It is a special type of communication, in that the messages are concerned with new ideas*”. Rogers (2003) stressed the importance of understanding the diffusion and adoption of an innovation. Rogers noted that innovation might face difficulty in diffusion and adoption even when it has benefits for people. He also stressed the importance of communication in facilitating the diffusion process. Rogers identified four main elements in the diffusion of innovation. These consist of innovation, the social system, time and communication channels. According to Rogers (2003) the four elements of diffusion process provide an indicator of how innovation passes to the user from the first knowledge of an innovation to the final adoption or rejection of that innovation.

The innovation diffusion theory (IDT) has six components of innovation characteristics, individual user characteristics, adopter distribution over time, diffusion networks, innovativeness and adopter categories and the individual adoption process (Rogers, 2003). IDT groups people into four distinctive categories. These are innovators, early majority, late majority, and laggards. In the IDT, Rogers (2003) plotted the rate of adoption of innovation on a graph that produced an S-shaped curve. However, in order to explain the rate of adoption of innovations, Rogers suggested the measurement of perceived characteristics of innovations, identifying five measures of adoption of innovation, namely: perceived relative advantage, perceived compatibility, perceived complexity, perceived trialability and perceived observability. According to Rogers (2003), relative advantage refers to the degree to which new technology is superior to the technology already in use, while compatibility describes the degree to which innovation is consistent with adopters’ pre-existing values and experience. Complexity concerns the ease or difficulty in understanding the innovation and its use. Furthermore,

trialability is the degree to which the innovation can be tested on a limited basis. Observability refers to the appearance of the innovation to other potential adopters. The importance of trialability arose in the early stages of innovation introduction, as the technology was totally new and had not been adopted yet. Therefore, the risk related to its adoption was considered high. Trialability in this situation is more important for early adopters than it is for late adopters (Rogers, 2003). In regard to observability, its importance appears at all stages of innovation adoption. Individuals usually rely on others' awareness of a specific form of technology. Moreover, advertising is important for raising people's awareness of the innovation. The importance of advertising becomes greater when the products are used only in private. On other hand, complexity can be seen as a multifaceted subject. According to Rogers (2003), the adoption rate can be maximised by paying attention to the idea that innovation should offer a substantial advantage and be relatively easy to integrate with existing technologies and practices. Furthermore, it needs to be straightforward to learn and use, easy to try, and readily visible to those who might adopt it.

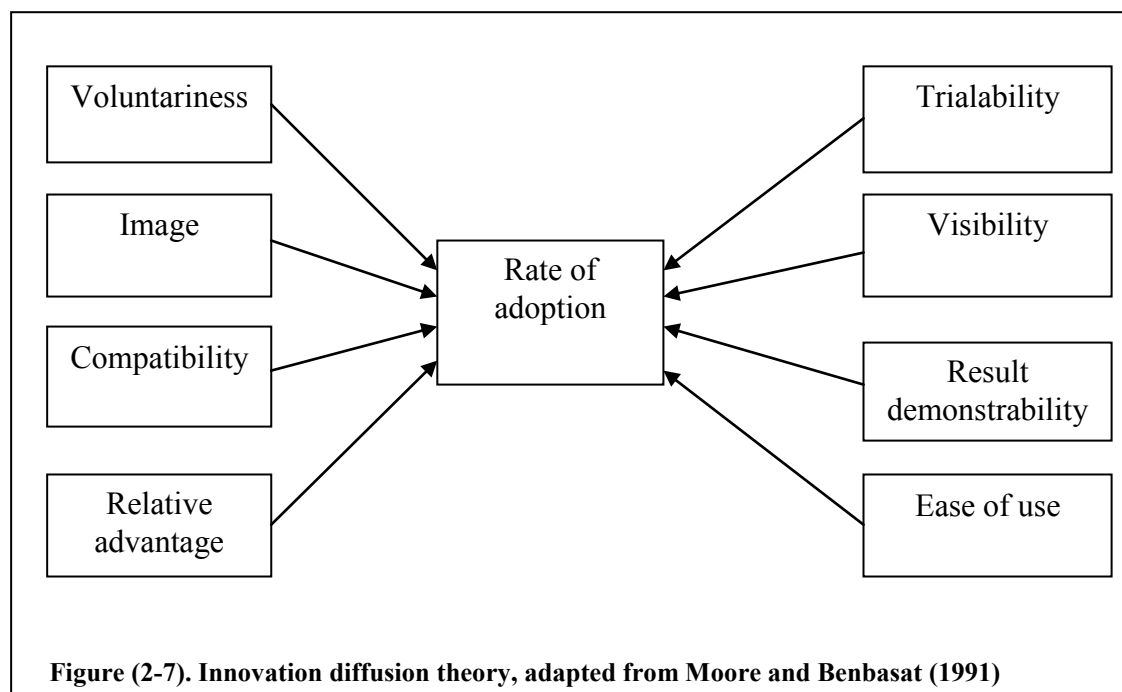
Several researchers have examined these five factors in the context of information technology (IT)/ information system (IS) and have found partial support for the diffusion of innovation theory (Tornatzky & Klein, 1982; Moore & Benbasat, 1991; Tan & Teo, 2000; Brown et al., 2004). The first study, by Tornatzky and Klein (1982), examined the relationship between the characteristics of innovations and the adoption of innovation suggested by Rogers. It concluded that, in order to explain the adoption of innovation behaviour, it is important to understand the characteristics of innovation. Tornatzky and Klein focused on the five fundamental perceptions of the characteristics of innovation. From a meta-analysis of 75 studies examining the characteristics of innovation, they reported that three perceived characteristics of innovation (relative advantage, complexity and compatibility) were found to be significant across a range of innovation types. A second study by Moore and Benbasat (1991) examined the adoption of IT/IS innovation in the context of personal workstations. They argued that previous studies examining the characteristics of innovation lacked consistency. They

differentiated between adopters and non-adopters by specifying that adopters have more positive perceptions of IT/IS than non-adopters. They focused on the five fundamental characteristics of innovations assumed by Rogers, as well as three more variables including image, voluntariness of use and visibility. From an analysis of 540 responses, they reported that relative advantage has the greater significance for IT/IS adoption. They also indicated that other variables such as compatibility, ease of use, visibility and voluntariness could be important. However, image and voluntariness were found to be unimportant. Another interesting study was carried out by Tan and Teo (2000), who examined the influence of characteristics of innovation suggested by Rogers as well as other factors, including subjective norms and perceived behavioural control, as suggested by Fishbein and Ajzen (1975a) and Ajzen (1991). In their findings, they revealed that the perceived characteristics of innovation and perceived behavioural control had a more significant influence than social influence on Internet technology adoption in the banking industry.

The IDT model was analysed by Brancheau and Wetherbe (1990), by looking at three distinct areas where the model serves as an explanatory tool, beginning with adoption over time. The rate is related to individuals or firms and thus it can be a suitable tool to measure the adoption of innovation on an organisational level. A similar concept was explored in the work of Fichman and Kemerer (1999) whose work was concerned with an examination of the assimilation gap. The second area is the innovations and adopter characteristics, which relate to the demographic factors that affect the adoption process.

Several researchers have argued that Rogers' IDT theory is the most appropriate model for predicting consumers' adoption behaviour. Other researchers have used IDT theory in different settings (e.g., Moore & Benbasat, 1991; Agarwal & Prasad, 1998, Karahanna et al., 1999). These studies have used IDT theory as a solely theoretical framework or combined with another adoption model (e.g., TRA, TAM). Within the technology acceptance domain, IDT has been well tested and has validated the work of

Moore and Benbasat (1991), which explored the IDT set of constructs and validated an instrument to test and measure relevant variables. Figure (2-7) shows a diagram that depicts the IDT and its constructs. IDT has been examined in a range of studies in different fields in various countries.



Plouffe et al. (2001) compare TAM with IDT in a process of exploring merchant adoption of a smart-card based payment system. They concluded that TAM might have the advantage of being less costly, but it might be misleading in certain situations. IDT provided more detail and explanatory power than TAM and might lead managers to different adoption decisions. In the e-commerce domain, Mirchandani and Motwani (2001) explored small business electronic commerce adoption in a study that adapted two IDT constructs: relative advantage and compatibility with the company. The study explored other variables like managerial time, information intensity, competition, knowledge of computers in the company, the cost of implementation and the enthusiasm of the top manager. In Saudi Arabia, Al Gahtani (2003) tested a subset of IDT constructs in a study aimed at computer technology adoption by Saudi workers in organisations.

The results confirmed the five proposed constructs adopted from IDT (relative advantage, complexity, compatibility, trialability, and observability).

The IDT seeks to explain the process of innovation adoption. It investigates the variables that influence the innovation diffusion process. The IDT contributes to predicting the rate of the adoption of innovation. However, some researchers (Karahanna et al., 1999; Chen et al., 2002) have argued that the IDT does not present enough evidence about the development of attitudes and of how attitudes can influence adoption decisions. Also, IDT did not provide evidence of how innovation characteristics fit into this process (Karahanna et al., 1999; Chen et al., 2002).

Table (2-7). Research related to IDT

Study	Sample	Technology	Objective	Results
Moore and Benbasat (1991).	540 respondents.	Personal work stations.	Validate an instrument of IDT.	The instrument was reliable and 34 items were generated.
Agarwal and Prasad (1998).	175 businesses and professionals.	World Wide Web.	Introducing personal innovativeness personal innovativeness of information technology (PIIT) as extension of IDT.	PIIT moderates the relationship with compatibility. The only significant relation was with PU.
Plouffe et al. (2001).	176 respondents.	Smart cards.	Compare TAM by IDT.	The IDT explain 46% while TAM explains 32.7% of the variance in BI.
Al Gahtani (2003).	1190 respondents.	PC use.	Investigate user adoption of PC in Saudi organisations.	Five variables were confirmed: relative advantage, compatibility, complexity, visibility, and trialability.
Hardgrave et al. (2003).	123 responses.	CASE tool.	Test a subset of integrated models to predict intention.	PU, social pressures, and compatibility were significant predictors.
Source: The researcher, Abu Shanab et al. (2010).				

Table (2-7) presents some of the research related to IDT. Thus, many authors (Moore & Benbasat, 1991; Tan & Teo, 2000; Brown et al., 2004) have indicated that diffusion theory provides insights into the prediction of IT/IS adoption behaviour. However, the above studies show diffusion theory has been extended to include other variables, depending on the situational environment.

2.3 Research into e-banking using consumers' adoption behaviour theories and models

In their study of the factors that affect Hong Kong bank consumers' adoption of four major banking methods: branch banking, ATM, telephone banking, and IB; Wan et al. (2005) used TRA as a conceptual framework. They focused on the impact of demographic characteristics and psychological beliefs about the attributes of each banking method. They investigated certain attributes of banking methods, such as informativeness, convenience, assurance, and user friendliness. The demographic variables that were investigated included age, gender, income, occupation and education. They concluded that beliefs about the level of convenience were at their highest in the field of IB. Nevertheless, with regard with beliefs about assurance in IB, the results show that is generally thought to have a lower level than ATM and phone banking. In addition, correlation analysis shows a significant positive association between beliefs about the ATM and IB and their adoption. Concerning demographic factors, the results indicate that there was marginally significant influence of gender on IB adoption, as men were more likely to adopt IB than females. Age also influences the adoption of IB, as those who were middle aged were more likely to adopt IB than the youngest and oldest customers. Income was also an influence on adoption behaviour as households with moderately affluent income relied heavily on IB compared to very affluent households who usually divided their use of banking methods between branch, telephone, and Internet banking. The results also indicate differences according to the education level of moderately educated customers, who used IB more frequently. In addition, occupation can be seen to influence the adoption of IB as it was used more often in the high-level category of occupations than in other categories.

Gerrard and Cunningham (2003) conducted a study to investigate Singapore adopters' and non-adopters' perceptions of the characteristics of IB. The conceptual framework of their study was based on Rogers' innovation diffusion theory (IDT). They began by interviewing two groups of IB adopters and non-adopters. According to the results of the interviews and the previous literature, they had excluded two key innovation characteristics: trialability and observability. The qualitative stage of their study was then followed by a survey of 240 customers (111 adopters versus 129 non-adopters). The results indicated that the adopters of IB perceive it as being less complex, more compatible and more convenient for them to use and they see it as requiring a higher level of computer proficiency. In their study to determine the critical variables that influence to consumer acceptance of self-service technologies (SST), Curran and Meuter (2005) used an extended TAM. In addition to the two main variables of TAM (perceived usefulness, PU and perceived ease of use, PEOU), two new variables (risk and need for interaction) were proposed as predictors of attitude to SST. The study took place in three states in the northeast USA. Data were collected from a convenience sample. Results indicated that there are significant differences between attitudes to each technology. Consumers preferred ATMs to phone banking, but showed attitudes that are more negative to IB. They found that PU was only a significant predictor of attitude for ATM and phone banking. In addition, PEOU was a significant predictor of attitude for ATM only. The results also indicated that risk clearly has an impact on attitudes toward online banking. In contradiction to what they had assumed, the need for interaction did not show any impact on attitudes toward any of the three technologies.

Alsajjan and Dennis (2010) introduced a revised TAM, and their suggested model aims to measure consumers' acceptance of IB. They used the technology acceptance model (TAM) and the theory of planned behaviour (TPB) as theoretical bases, and added extensions of perceived manageability, SN, and trust. Instead of including PEOU, self-efficacy and PBC as individual variables Alsajjan and Dennis (2010), argue that these variables could be combined in one construct that might be

referred to as perceived manageability. In their model, they assume that perceived manageability has a direct influence on both perceived usefulness and trust. Moreover, that trust influences PU. They also assume that subjective norms influence perceived manageability. In addition, they hypothesised that both PU and trust have a direct influence on attitudinal intention. In their model, they assumed that PU and trust mediate the impact of SN and perceived manageability on attitude (A). In order to test the model they used a self-reporting tool. They collected data from 618 university students in the United Kingdom and Saudi Arabia. They tested the model in the two cultural groups in Saudi Arabia and United Kingdom using the structural equation modelling (SEM) tool. The results indicated that the influence of trust and system usefulness on Attitude intention (AI) varies between the two countries, emphasising the potential role of culture in IS adoption. The SEM results confirmed the fit of the model, in which perceived usefulness trustfully mediates the impact of subjective norms and perceived manageability on AI. Moreover, the results showed that the relationship between the proposed model constructs remained similar across the two groups, apart for the relationship between PU and trust with AI. The results indicated that the relationship of trust and PU with AI varies between the two countries, emphasising the potential role of cultures in IS adoption. Moreover, the results confirmed that intentions about IB adoption are attitudinal. Moreover, the analysis confirms that PEOU, self-efficacy and PBC form one construct that represents users' perceptions of control of their behaviour. The model explains 81–83 percent of AI variance for Saudis and Britons. Nevertheless, whereas PU was more influential for Saudi respondents' attitudinal intentions, trust was very similar in deciding UK customers' attitudinal intentions.

In order to understand the adoption and continued use of mobile banking among Taiwanese consumers, Lin (2011) integrated the innovation diffusion theory (IDT) with knowledge-based trust literature. The research model investigates the influence of innovation attributes (ease of use, perceived relative advantage, and compatibility) and knowledge-based trust (perceived competence, integrity and benevolence) on attitude and behavioural intention. The model assumes that innovation attributes and knowledge-

based trust will have a positive effect on consumers' attitudes toward mobile banking which in turn positively influence consumers' behavioural intentions. Lin tested her model by using the data collected from a survey of 368 students (177 for potential customers and 191 for repeat customers). The results from SEM indicated that ease of use, compatibility, perceived relative advantage, integrity and competence significantly influence attitude and can in turn lead to behavioural intentions to adopt mobile banking. She also conducted a multi-group analysis with t-statistics, based on self-reported use of mobile banking. The sample was split between potential and repeat customers. Results of the multi-group analysis revealed that there are significant differences between potential and repeat customers concerning the importance they give to PEOU, as repeat customers give it more importance. The analysis indicates that the relationship between attitude and perceived competence is greater for potential customers than for repeat customers.

Foon and Fah (2011) used UTAUT to investigate Malaysian consumers' IB adoption behaviour. The sample used in their study was a convenience sample of 200 respondents from three areas of Kuala Lumpur. The data was collected through a self-administered questionnaire. Their study results indicated that effort expectancy; performance expectancy, social influence, trust and facilitating conditions were significantly positively correlated to consumers' behavioural intentions. The results showed that a 56.6 percent variance of consumers' behavioural intention could be explained by those five predictors. Foon and Fah concluded that demographic characteristics had not affected Malaysian consumers' behavioural intentions toward IB adoption. They also concluded that UTAUT was applicable to predict Malaysian consumers' IB behavioural intentions.

In their study to investigate the factors that affect Omani consumer acceptance of online banking, Riffai et al. (2011) use TAM as theoretical base. In their research, they identify three categories of factors that are expected to influence Omani consumer's online banking adoption decisions. The first category includes performance expectancy,

effort expectancy, social influence and trust. The second category includes web design, perceived playfulness, output quality and awareness of the service. The third category includes demographic factors (age, gender, occupation, Internet experience and education). In their model, they assume that behavioural intentions mediate the relationship between research constructs and the actual use of online banking. They also assume that demographic factors moderate the relationship between performance expectancy, effort expectancy, social influence, and trust and behavioural intention. They test their model using 315 respondents. The results indicated that respondents believe that IB is user-friendly, understandable and clear. Respondents also think that if the banks are able to maintain their privacy and security they will adopt such banking system. In order for the Omani banks to enhance consumers' adoption of IB, Riffai et al. (2011) suggested that they should improve the quality of output, and this could be done through developing the websites navigation level to provide comprehensive site maps and greater ease of access. Moreover, banks should customise their banking systems to suit Omani customers' expectations and should consider cultural aspects and the Islamic way of working and doing business.

In order to compare the predictability of three of the most popular adoption behaviour models in the context of IB, Yousafzai et al. (2010) use structural equation modelling. In their study, they compare theory of reasoned action (TRA), theory of reasoned action, theory of planned behaviour (TPB) and the technology acceptance model (TAM). They also measured not only the behavioural intention but also the actual behaviour of the individuals in their sample. They tested three models along with an extended TAM model using data obtained from 441 Halifax Bank customers. Their results revealed that TAM outperformed compared to TRA and TPB in predicting consumers' IB behaviour and model fit. They also indicated that trust is an important factor in determining consumers' IB behaviour. Yousafzai et al., believe that TAM outperformed the other two models because it used two constructs (perceived ease of use and perceived usefulness) specified for technology acceptance. They also argue that as IB is technology-related behaviour, TAM would be better in predicting it. In addition,

the results indicate that integrating trust into TAM is empirically significant and improves the explanatory power of the model.

Thus, an overview of previous studies shows interesting points: the implication of actual behaviour and behavioural intention of usage varied among different models. Most of the studies utilised the self-reporting tool to study the acceptance and usage behaviour. Even though some studies adopted the qualitative approach in investigating adoption behaviour, the majority used the quantitative approach for the same purpose. In general, the studies used self-administered questionnaires, interviews, and online surveys. However, some of the studies of online banking adoption behaviour were conducted in different countries and included culture as an external variable that influences consumers' adoption behaviour. Hence, these models did not investigate the influences of cultural elements (e.g., language, values, religion) in depth.

2.4 Comparing consumers' technology acceptance theories and models

Previous discussion of consumers' acceptance theories and models (section 2.2) reveal that many models have been developed to explain and predict consumers' adoption behaviour. Although the models discussed show acceptable explanatory and predictive power, they were still criticised with some common threads and limitations. Therefore, the selection of the appropriate model that can guide management to take action has always remained a critical task for information system researchers (Abbasi, 2011). *“Researchers are confronted with a choice among a multitude of models and find that they must pick and choose constructs across the models, or choose a favoured model and largely ignore the contributions from alternative models”* (Venkatesh et al., 2003: 426). This section presents a comparison of the widely accepted models already discussed in the previous sections. Comparing the models and pointing to the common criticism of each model in the literature provides key strengths for the rationale to integrate more than one model in the current study. Table (2-8) summarises the major predictors and moderating effect and criticisms for each of the models discussed in this chapter.

Table (2-8). Summary of consumers' adoption behavioural theories and models: Major variables and criticisms

Theory	Authors	Major variables	Moderating effect	Criticisms
<p>Innovation diffusion theory (IDT): Grounded in sociology, IDT has been used since the 1960s to study a variety of innovations, ranging from agricultural tools to organisational innovation.</p>	<p>Rogers (1975, 1995)</p>	<p>Image, visibility, relative advantage, voluntariness, compatibility, trialability, result demonstrability, complexity and rate of adoption.</p>	<p>N/A</p>	<p>Much evidence used in the development came from medical and agricultural contexts. Presumes technology is static. The S curve is a series of curves from various adopters of innovations so is not a single point in time. Pro-innovation bias, issues of equality and issues of recall emerge.</p>
<p>Theory of reasoned action (TRA): Drawn from social psychology, TRA is one of the most fundamental and influential theories of human theories of human behaviour. It has been used to predict a wide range of behaviours.</p>	<p>Ajzen and Fishbein (1980).</p>	<p>Behavioural intention, actual behaviour, subjective norm, and attitude.</p>	<p>N/A</p>	<p>Sheppard, Hartwick, & Warshaw (1988) indicate limiting factors relating to the use of attitudes and subjective norms to predict intentions, and the use of intentions to predict the performance of behaviour. The limits are Goals Vs behaviours: distinction between a goal intention and an actual behavioural intention. The choice among alternatives: the presence of choice can significantly change the nature of the intention formation process and the role of intentions in the performance of behaviour Intentions Vs estimates: what one intends to do and actually expects to do are different. Hale et al. (2003) claim TRA excludes a wide range of behaviours such as spontaneity, impulse, habits, cravings, or mindlessness</p>

Theory	Authors	Major variables	Moderating effect	Criticisms
<p>Theory of planned behaviour (TPB): TPB extended TRA by adding the construct of perceived behavioural control. Perceived behavioural control is theorised to be an additional determinant of behaviour.</p>	<p>Ajzen (1991,2002)</p>	<p>Attitude, subjective norms, perceived behavioural control (PBC), behavioural intention and actual behaviour.</p>	<p>N/A</p>	<p>Compared to affective processing models, TPB overlooks emotional variables such as threat, fear, mood and negative or positive feeling And thus assesses them in a limited way. Most of the research is circumstantial correlation, and not evidence based on experimental studies.</p>
<p>Technology acceptance model (TAM): TAM is tailored to IS context, and was designed to predict information technology acceptance and usage on the job. Unlike TRA, the final conceptualisation of TAM excludes the attitude construct in order to better explain intention parsimoniously. TAM has been widely applied to diverse set of technologies and users.</p>	<p>Davis (1989).</p>	<p>External factors, attitude, PU, PEOU, intention to use and Actual system usage.</p>	<p>N/A</p>	<p>TAM has been widely criticised, despite its frequent use. Criticisms of TAM as a “theory” include its lack of falsification, its questionable heuristic value, limited explanatory and predictive power, triviality, and lack of practical value (Chuttur, 2009). Independent attempts by several researchers to expand TAM in order to adapt it to the dynamic IT environments have led to a “state of theoretical chaos and confusion” (Benbasat & Barki, 2007). In general TAM focuses on the individual ‘user’ of a computer, with the concept of ‘perceived usefulness’ and ignores the essentially social processes of IS development and implementation. For further critique of TAM, see Bagozzi (2007).</p>

Theory	Authors	Major variables	Moderating effect	Criticisms
<p>Revised technology acceptance model (TAM2):</p> <p>TAM2 extended TAM by including subjective norm as an additional predictor of intention in the case of mandatory setting.</p>	<p>Venkatesh and Davis, 2000.</p>	<p>PU determinant: Subjective norm, image, job relevance, output quality, results demonstrability.</p>	<p>Experience moderate the relation between the SN and BI relationship. Voluntaries moderate the relationship between experience and BI.</p>	<p>It determine the external factors that influence PU of technology, those are the cognitive instrumental processes. TAM2 was able to shed light on the determinant of PU but it did not explain how PEOU developed. More over the TAM2 is more complex than TAM.</p> <p>TAM2 presented a more detailed evaluation and clear view of the issues hidden in the TAM, but it did not overcome the inherent limitations of the TAM. As with the TAM, self-reported usage was measured, which might present a common method bias in the results. Additionally, like the TAM, the TAM2 assumes that intention to act implies limitless freedom, whereas in practice factors such as limited ability, time, environmental or organisational limits, and unconscious habits limit this freedom (Abbasi, 2011).</p>

Theory	Authors	Major variables	Moderating effect	Criticisms
<p>Revised technology acceptance model (TAM3):</p> <p>Developed to overcome the limitations of TAM2, it introduces the determinants of perceived ease of use.</p>	<p>Venkatesh and Bala (2008)</p>	<p>PU determinant: Subjective norm, image, job relevance, output quality, results demonstrability. PEOU determinant: computer self-efficacy, perception of external control, computer anxiety, computer playfulness, objective visibility</p>	<p>Experience moderate the relation between computer anxiety and PEOU. It also moderate PEOU and BI relationship. And the SN and BI relationship. Voluntaries moderate the relationship between experience and BI, and the relationship between PEOU and its determinates</p>	<p>Although the TAM3 presented a more clear view of the issues hidden in the TAM, and TAM2 it did not overcome the inherent limitations of the TAM. Like the TAM and TAM2, the TAM3 assumes that intention to act implies limitless freedom. Although the TAM3 was able to state the determinants of PU and PEOU, the model considered more complex.</p>
<p>Unified theory of acceptance and use of technology (UTAUT):</p>	<p>Venkatesh et al. (2003)</p>	<p>Social influence, effort expectancy, performance expectancy, and facilitating conditions</p>	<p>Experience: empirical evidences show that ease of use become no significant with increased experience. Voluntariness: subjective norm was salient only in mandatory setting and even then only in cases of limited experience with the system. Gender: empirical evidence demonstrated that PU was more salient for men while</p>	<p>Bagozzi (2007) commented on the UTAUT as a model with 41 independent variables for predicting intentions and at least eight independent variables for predicting behaviour, claiming technology adoption was “reaching a stage of chaos.” Van Raaij and Schepers (2008) criticised UTAUT as being less parsimonious than TAM2 because its high coefficient of determination is only achieved when moderating key relationships with up to four variables. They also claimed the grouping and labelling of constructs problematic as a variety of disparate items were combined to reflect a</p>

			PEOU was more salient for woman. The effect of subjective norm was more salient for woman in the early stage of experience	single psychometric construct.
Source: Riffai et al. (2011: 3–4); the researcher.				

There are two streams of IT acceptance research; one stream is grounded in social psychological theory whereby individual differences are posited to influence attitude, intentions and behaviour only through the mediating effect of beliefs. Models such as theory of reasoned action TRA, theory of planned behaviour TPB, and the technology acceptance model TAM are located in this stream. These models are based on Social cognitive theory (SCT), that asserts that individual intentions are the base of the individual's usage behaviour (Agarwal & Prasad, 1999). The other stream of research is that is based on the innovation diffusion theory (IDT) (Agarwal & Prasad, 1999). According to IDT, there is a systematic disparity between early and late adopters of an innovation in three major areas of personality traits, communication behaviour and socioeconomic status and that an individual intention to adopt innovation in IDT is influenced by the innovation characteristics (Rogers, 1995).

This section begins by comparing the technology acceptance model (TAM), the theory of reasoned action (TRA) and the theory of planned behaviour (TPB). Then the TAM, the revised technology acceptance models (TAM2 and TAM3), the innovation diffusion theory IDT and the UTAUT are compared. The section is then present a conclusion about the comparison of the models.

2.4.1 Comparing TAM, TPB and TRA

The theories of planned behaviour (TPB) and the technology acceptance model (TAM) are both successors to the theory of reasoned action (TRA) and are grounded in social cognitive theory (SCT). As has been discussed in (sections 2.2.2 and 2.2.3) the two

models share points of resemblance because of the causal uni-dimensional view of relationships among the variables. Precisely, the two models suggest that environmental beliefs effect cognitive beliefs that in turn influence attitude and targeted behaviour. On the other hand, the models are different from the perspective of belief. For instance, TPB believes that BI is the result of the attitudes, subjective norm and perceived control beliefs (Ajzen, 1991; Mathieson, 1991). Whereas, TAM holds that attitudes are the result of beliefs of PEOU and PU (Davis et al., 1989; Davis, 1989). This difference between the TPB and TAM can be understood by the categorisation of belief factors such as internal control variables, which incorporate one's motivational strengths, skills, and external control beliefs, which deal with the opportunity, time, and cooperation constructs (Ajzen, 1985). In TAM, Davis et al. (1989) did not specifically examine both internal and external beliefs. Instead, they considered them as part of the situational beliefs that were measured by the PEOU. When TAM is examined in mandatory situations, it produced significant explanatory variance in internal situational beliefs but remained less satisfactory in explaining variance within external controlled beliefs. Contrary to TAM, TPB has the advantage of including the PBC factor that explains a person's perception of control over performing behaviour. Because of its consideration of the volitional control, TPB is empirically favoured in published literature (Abbasi, 2011). Although, from the explanatory perspective, both TAM and TPB remain successful. However, within voluntary settings TAM had a slight advantage over TPB. To get the advantage of both models, Taylor & Todd (1995b) combined the TAM and TPB models and presented an integrated model known as the augmented TAM. Similar to TAM, augmented TAM produced an insignificant impact of subjective norm within the context of both inexperienced and experienced users. The integration of the two models in augmented TAM suggests that neither TAM nor TPB was enough to obtain the required objectives and leaves a gap for further exploration and extensions of theoretical conceptualisations (Abbasi, 2011).

A comparison of TRA and TAM shows them to be similar in that behavioural intention (BI) is the major determinant of usage behaviour (BU). Moreover, both models share the limitation of volitional control (Fishbein & Ajzen, 1975a; Davis et al., 1989). On the other hand, the two models differ from each other in two main respects. First, unlike TRA, TAM assumes that only two beliefs, PU and PEOU, are the predictor of an individual's attitude and BI. Second, unlike TRA, TAM does not include the SN as a predictor of BI. Because of these two differences, the TAM is considered more advantageous than TRA. For example, previous literature (Chau & Hu, 2001; Shih & Fang, 2004; Lin, 2007) is not consistent as to whether SN is a stable predictor to explain BI. Therefore, including SN in a model only increases its complexity rather than its explanatory power. Furthermore, the addition of normative beliefs (individuals' characteristics, the nature of development process, system design characteristics, task characteristics, organisational factors and political factors) and their expectancy formulation with attitude is also considered a limitation of TRA, because, for each new context, new beliefs need to be elicited that are idiosyncratic in nature and cannot be generalised for other systems (Abbasi, 2011). Davis et al. (1989) compared the TAM with TRA within voluntary settings, and found that TAM is better than TRA in explaining BI. Gentry & Calantone (2002) compared TAM, TPB, and TRA and found that TAM explained higher variance in BI with (91 percent) followed by TPB with (85 percent) and TRA with (57 percent). In their development of UTAUT, Venkatesh et al. (2003), compared the results of eight prominent models including TRA, TAM, and TPB. The authors found that within voluntary settings the TAM was better than the other two models. When Shih and Fang (2004) applied the TRA and TPB models in the context of IB adoption in Taiwan, they concluded that both models provide a good fit. Wan et al. (2005) contended that TRA is less applicable when the customer shows habitual behaviour for the adoption of telephone banking or branch channels.

From the discussion above, it is concluded that the TAM is less complex and easy to use and it is more useful to predict consumers' intentions to use technologies in situations where contextual information is not needed. Moreover, because of its

explanatory power and parsimonious structure TAM gained the advantage over TPB. Yet, TPB has the advantage over the TAM when predicating and designing specific user behaviour in diverse situations. The three models have clear strengths over each other. Considering the advantages of the three models Venkatesh & Davis (2000) integrated them and named the new integrated model TAM2. TAM2 was successful in explaining 60 percent variance in BI within four different organisational contexts. In summary, it is clear that the importance of all three models (TRA, TAM, and TPB), in explaining and predicting consumers' information technology (IT) adoption behaviour is considerable. What is not clear, yet, is the extent to which of these the models is capable of explaining individuals' differences and which of the models is parsimonious to explain consumers IT acceptance behaviour because this matters in establishing acceptance behaviour.

2.4.2 Comparison of IDT, TAM, TAM2, TAM3 and UTAUT

This section presents a comparison among some of the widely technology acceptance models, the innovation diffusion theory (IDT), technology acceptance model (TAM), the revised technology acceptance model (TAM2), the unified theory of acceptance and use of technology (UTAUT), the revised technology acceptance model (TAM3), developed by Roger (1975), Davis et al. (1989), Venkatesh & Davis (2000), Venkatesh et al. (2003), and Venkatesh & Bala (2008). Developed in the information technology field, TAM2, TAM3, and UTAUT did not gain the same recognition as TAM did possibly because they are more contemporary and more complex than TAM. TAM2 and UTAUT share points of similarity in that both are based on the integrating approach and the paths are examined based on the crossover effect (e.g., Venkatesh & Bala, 2008). Both TAM2 and UTAUT address acceptance as well as usage by excluding the concept of attitude and assume that perceived technological characteristics would directly influence the individuals' behavioural intention (BI). Social norms (i.e. subjective norms in TAM2 and social influence in UTAUT) and voluntariness of use were included in TAM2 and UTAUT. Social norms were omitted and voluntariness was considered a limitation of TAM. Finally, the moderating impact of usage experience over social norms was also highlighted in both models. Despite the similarities between these two models, the two

models differ in that TAM2 applies the integrating approach based on a stream of research, which intends to examine the key determinants of PU (e.g., Davis et al., 1989), whereas UTAUT examines variables from previous researches (Venkatesh et al. 2003) by including them directly as part of the framework. Second, TAM2 does not investigate the effect of the demographic variables (i.e. age and gender), while UTAUT examines the moderating effect of these variables. Finally, TAM2 includes uni-dimensional constructs (i.e. singular in nature and cannot be broken into further dimensions), whereas UTAUT incorporates multidimensional constructs (i.e. constructs are developed by summing up more than one uni-dimensional construct). Both models considered strong in explanatory power, but they provide a less parsimonious structure. Although parsimony is important factor for the acceptance of a model, it is not the only important factor as models need to be evaluated in terms of their explanatory power as well (Taylor & Todd, 1995b). Despite that, both models are considered to have high explanatory power, UTAUT explained a higher variance in explaining BI (Venkatesh et al., 2003). Nevertheless, TAM2 is considered better than UTAUT as most of UTAUT's explanatory power because of moderating factors (Van Raaij & Schepers, 2008). Neither is UTAUT's approach of integrating 41 independent variables for predicting intention valid (Bagozzi, 2007).

IDT provides well-developed concepts and a large body of empirical results applicable to the study of technology evaluation, adoption and implementation, as well as tools, both qualitative and quantitative, for assessing the likely rate of technology diffusion, and identifies considerable factors that facilitate or hinder the adoption and implementation of technology (Fichman, 1992). However, IDT does explain the innovation decision process, factors determining the rate of adoption, and categories of adopters. It is useful in predicting the likelihood rate of adoption of an innovation. Nevertheless, it has been argued that the theory does not provide support on how attitude develops into decisions, and how the innovation characteristics fit into accept/reject decisions process (Chen et al., 2002). IDT has played a role in understanding the process of technical and social change (Khan and Woosley, 2011). While the fields of origin for

the IDT are education, sociology, anthropology, and communication and marketing (Dingfelder & Mandell, 2011; Bishop, Shumway, & Wandschneider, 2010), the fields of origin for TAM are information systems and technology adoption (Davis, 1986). This makes TAM more popular for use in information technology studies. Although TAM, IDT have different fields of origin, they can be categorised based on their application (Venkatesh et al., 2003). IDT fits under the group, organisation as well as the individual level (Rogers, 1995), while TAM and its extensions are individual-level adoption models. In the theoretical base, there are some overlaps of theoretical foundations in the IDT, TAM and the UTAUT (Goodhue, 1995; Venkatesh, et al. 2003). In TAM, behavioural intention to use a system is considered the dependent variable, and the perceived ease of use and perceived usefulness are the independent variables (Davis, 1986). In IDT, the implementation success or adoption of technology is the dependent variable, and the compatibility of technology, complexity of technology and relative advantage are the independent variables (Rogers, 1995). TAM is a simpler model as it involves PEOU and PU as the main constructs of the theory and focuses mainly on behavioural intentions. On the other hand, IDT includes the dimension of time (Khan and Woosley, 2011), which has not been included in the TAM. The overlap of the factors between IDT and TAM is obvious, that technical complexity (PEOU) and relative advantage (PU) have some similarity (Venkatesh et al., 2003). The perceived usefulness in TAM and relative advantage in the IDT are the same as performance expectancy in the UTAUT. This variable is also the main predictor of behavioural intention in the three models (Davis et al. 1989, 1992; Moore & Benbasat, 1991; Venkatesh et al., 2003). The effort expectancy in UTAUT can be defined as the extent to which the technology is perceived as easy to use. The ease of use variable from TAM captures the essence of this construct (Davis et al., 1989; Venkatesh et al. 2003). Finally, these models, IDT and TAM and its extensions, all are based on the premise that adopters make rational, independent decisions.

On the other hand, the difference is that TAM focuses on behavioural intentions (Davis, 1986; Venkatesh et al., 2003), while IDT (Rogers, 1995) focuses on longitudinal changes of diffusion rates and the sequence in which adoption occurs. Moreover, social influence, which can be defined as the extent to which an individual's decision to use a technology is impacted by another individual, is represented in UTAUT. This variable is represented as the image variable in IDT and as the subjective norm in TAM2 (Venkatesh et al., 2003). Each of the three models (IDT, TAM and UTAUT) has been broadly implemented and has limitations (Davis et al., 1989; Moore & Benbasat, 1991; Venkatesh et al., 2003). Although IDT has been extensively used, it has some limitations. According to Moore & Benbasat (1991), other factors influence the technology adoption other than those five factors listed by Rogers (1995). IDT is based on the innovation characteristics and the social system surrounding it. Because of this, the variables are limited and any variations are restricted to the constructs in the model (Wolfe, 1994). Another limitation is that the technology under investigation does not make a difference. Therefore, the IDT requires reconsideration (Khan and Woosley, 2011). Eveland and Tornatzky (1990) refer to one of the limitations of IDT when they stated, "*problems arise when the diffusion model is applied in situations where its basic assumptions are not met that is to say, virtually every case involving complex, advanced technology*" (p. 123). Moreover, Attewell (1992) states that IDT works well in predicting technology adoption only in the case of an individual technology adoption decision while when technology adoption involves complex organisational processes, IDT appears less applicable. Straub (2011) raises another limitation of IDT when he states that the descriptive rather than prescriptive feature of IDT means that it usually tells why adoption occurs rather than how to facilitate the adoption of innovation.

The literature confirms that TAM (Chin and Todd, 1995; Gefen & Straub, 1997; Igbaria et al., 1997; Legris et al., 2003; Malhotra and Galletta, 1999; Mathieson 1991; Taylor & Todd, 1995a; Venkatesh et al., 2003) is a notable model, but Legris et al. (2003), believe that there are some concerns related to it. These concerns are as follows. The first concern was that most of the studies validating TAM involved students. The

second concern was that the types of applications studied were mostly introduction of development applications or office software. The third concern was that TAM measures the variance in self-reported use. The fourth concern was that the factors considered in the adoption of IT are influenced by organisation dynamics not included in TAM. Some researchers indicate a lack in relevance and rigour in TAM (Chutter, 2009; Gefen & Straub, 1997, 2000), and others (Venkatesh et al., 2003; Bagozzi, 2007) have identified inappropriate implementation of social factor considerations. Therefore, TAM needs to be expanded to include social and human factors (Agarwal, & Prasad, 1998 Hu et al., 1999; Legris et al., 2003). On the other hand, IDT is a good predictor of social and technical change (Katz et al., 1963) and has been implemented in several fields besides IT, such as education and mental health systems (Dingfelder & Mandell, 2011), sociology, anthropology (Katz et al., 1963).

Tang and Chen (2011: 591) compare TAM and its three well-recognised extensions (TAM2, TAM3, and UTAUT). They believe that these extensions are very important. As they put it, "*TAM2 enriched the source of the determinant factors of perceived usefulness and perceived ease of use; UTAUT synthesized and unified eight prominent IT acceptance and use models, and it provides some new theories and methods for follow-up studies; TAM3 extended TAM2 as well as integrated some other variables, showing its comprehensive and potential maneuverability*".

In their comparison of the four models, concerning their ability to explain variance in behavioural intention and usage behaviour, Tang & Chen (2011) mentioned that all four were able to explain at least 40 percent of the variance of behavioural intention. The four models were able to explain at least 31 percent of the variance on usage behaviour, as table (2-9) indicates.

Table (2-9). Explained variance in the models

Model	Explained variance (Adjusted R ²)	
	Intention to use	Usage behaviour
TAM	45%~ 61%	31%~ 74%
TAM2	34%~ 52%	----
UTAUT	70%	52%
TAM3	53%	35%
Source: Tang and Chen (2011: 591)		

Table (2-9) also indicated that the UTAUT model was the most effective in explaining the variance on behavioural intention, but in regards to usage intention TAM exceed it in some of the cases.

2.4.3 Conclusion about the suitable model for the current study

This study is based on the use of TRA, IDT and TAM to establish an integrated framework of Internet-only bank adoption. IDT is considered as one of the theories that can be used to investigate innovation diffusion in various areas, including the Internet. In IDT, Rogers (1975) proposes that the perceived attributes of innovations, social norms and individual characteristics are key determinants of voluntary innovation adoption. On the other hand, TAM focuses more on employees' use of technology (Davis, 1989). It concentrates on the individually related factors that determine technology usage. Technology acceptance literature refers to TAM as a 'robust, well-established, parsimonious and powerful model' of acceptance of information technologies (Venkatesh & Davis, 2000: 187). Moreover, even though some researchers consider TRA capable of investigating consumer technology acceptance behaviour, Yousafzai et al. (2010) believe that TRA is a general model that TAM outperforms in predicting consumers' acceptance of IB. As discussed earlier in this chapter, the three models have been used to predict consumers' acceptance of technology in several studies which were conducted in both voluntary and mandatory settings. Each of the three theories suffers from some of the limitations which have been discussed in this chapter. Therefore, combining the components of the three theories could help overcome some of these limitations. For example, TRA has some limitations, as mentioned in section (2.2.1), and the IDT has certain limitations, as mentioned in section (2.2.7), while TAM is not a

weak exception. One of the limitations of TAM is that it sheds light only on the determinants of intention without giving an explanation on how these determinants are formed (Mathieson, 1991). This limitation has been solved by TAM2 and TAM3, as these two models concentrate on investigating the determinants of the PU and PEOU. In addition, these models refer to external variables that may influence BI, but still they, along with TAM, fail to determine what these external variables are and how they influence behaviour. Moreover, one of TAM's assumptions is that the PEOU and PU are fully mediating the effect of external variables on BI. Burton-Jones and Hubona (2006) have criticised this assumption. As researchers' findings have indicated, in some cases PU and PEOU are not capable to fully mediating the effect of external variables on BI. Moreover, Bagozzi (2007) criticised TAM for not including social and group influences in technology acceptance decisions. Therefore, there is a need to enhance TAM by integrating it with other behavioural theories that have overcome such limitations. Over the last 30 years, TAM's predictability has been enhanced by adding several variables. For example, Gumussoy and Calisir (2009) extended TAM by including compatibility, subjective norms and perceived behavioural control. Of these factors, subjective norm has the highest impact on intentions. In addition, Lee (2008) expanded the integrated TAM and TRA by including perceived risk, perceived benefits and trust. Lee's results indicated that perceived risk, perceived benefits, attitude, perceived behavioural control and perceived usefulness significantly influence customers' intentions to trade online.

The study proposes an extended technology acceptance model that integrates TRA, IDT and TAM by including additional variables that have been introduced to e-commerce acceptance literature and show significant influence on consumers' acceptance of e-commerce. Variables such as perceived risk, perceived trust, personal innovativeness, previous technology experience, awareness and the need for human interaction have been introduced as extensions to consumer behaviour and TAMs (e.g., TRA, TPB, IDT, and TAM) have improved the predictability of such models. According to the literature review in this chapter, the following sub-model (figure 2-8) is

developed. The quantitative section of this thesis will test this sub-model as a component of the general model (figure 9-1).

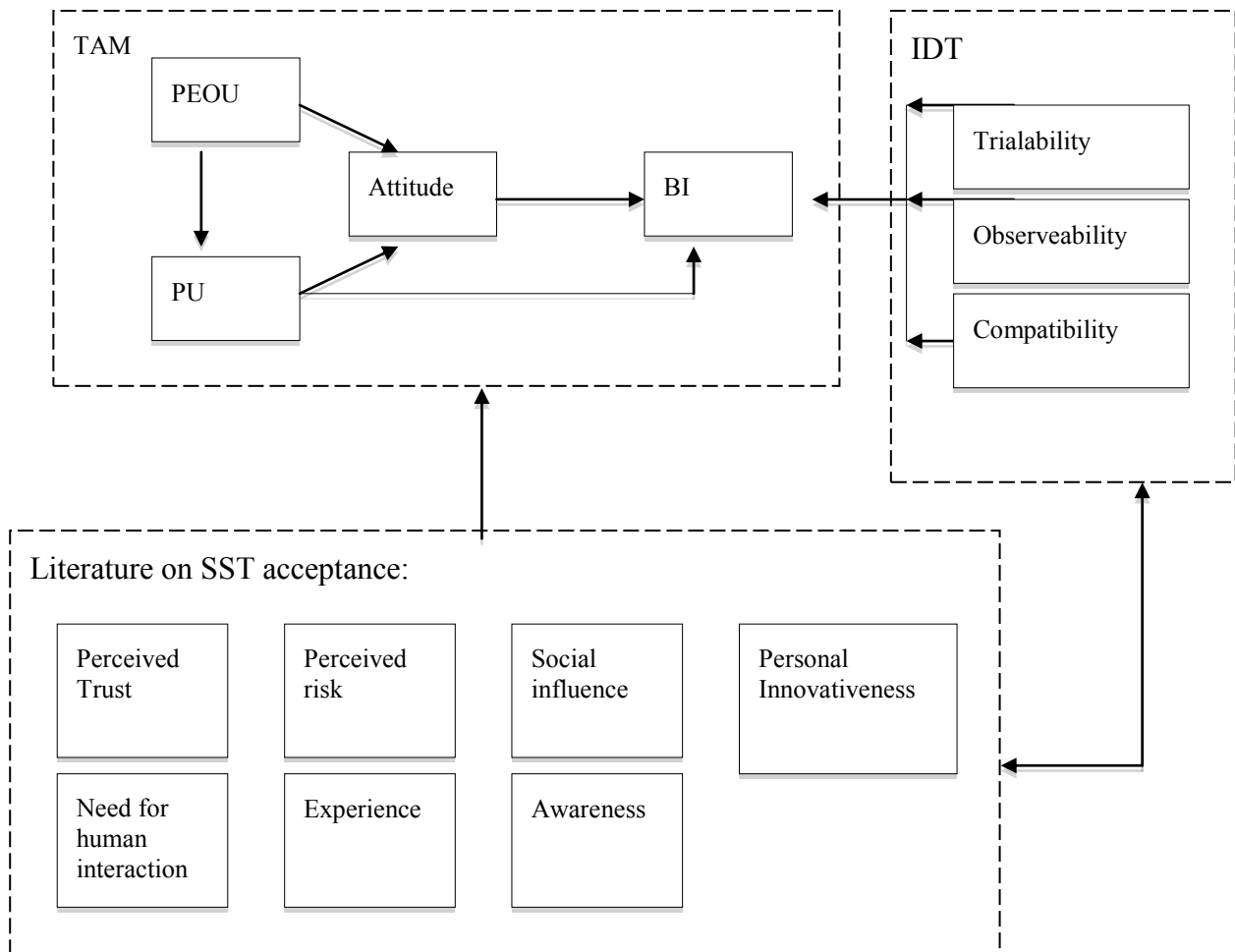


Figure (2-8). An integrated model of TRA, IDT and TAM along with extension variables proposed by previous studies

2.5 Summary

This chapter has discussed theories that have been developed to predict consumers' adoption behaviour. Much emphasis has been placed on the theoretical basis and assumptions of each theory and the theories' limitations have been discussed. Comparing consumers' acceptance behaviour models includes comparing TAM with

TPB and TRA, a comparison of technology acceptance models and conclusions with regard to the suitable model to be used in the current study.

The following chapter is dedicated to the presentation and discussion of literature on self-service-technology adoption behaviour in general and online banking in particular.

Chapter three: Consumers' acceptance of Internet banking

3.1 Introduction

This chapter follows from the presentation and discussion of the recognisable models in the technology acceptance field that were discussed in chapter two. This chapter begins by discussing consumers' acceptance of self-service technology. The next section presents the online-only banking concept and compares it with other e-banking concepts. Because of the shortage of literature on the "*branchless bank*" or the "*Internet-only bank*" the rest of the chapter concentrates on discussing online banking as it has been the basis for the take off of Internet-only banks. Therefore, the chapter proceeds with discussing the importance of IB, as well as elaborating on the level of consumer satisfaction with IB. A discussion of the factors that enhance or hinder IB adoption. The chapter concludes with a summary of what has been discussed along with discussion of the gaps in IB studies.

3.2 Consumers' acceptance of self-services technology

Progress in technology has enabled service industries to move toward the delivery of services through self-service technology (SST), from intensive relay in face-to-face service to the use of machines to deliver services. Therefore, customers are now able to rely on themselves to satisfy their needs for service through a variety of technology-based service delivery channels such as the Internet, the telephone, or automated teller machines (Lu et al., 2009). Self-service technology has been widely used by many service providers. Several media technologies allow users to electronically produce and consume services without any direct contact with service provider employees (Meuter et al., 2003). This has reduced the need for intensive labour, which has reduced labour costs and has expanded the options for improved quality and service delivery and increased efficiency of the service (Lu et al., 2009).

Companies are attracted to providing SST for various purposes. Some of these purposes include: questions regarding accounts, bill paying, frequently asked questions, and delivery tracking. A second extremely rapidly growing arena for SSTs is direct interaction with their employees. The third use of SSTs is the broad category called self-help, which refers to technology that enables customers to receive information, learn, provide their own services and train themselves (Matthew et al., 2000)

Self-service technologies provide consumers with a range of benefits that includes 24 hours a day availability, ease of use, time saving and convenience. Moreover, this technology provides key related intrinsic benefits such as feelings of independence and enjoyment. In addition it is perceived as being able to deliver a high quality service. Even though some argue that SST provides cost savings, this is not always true; especially when the SST is the only option provided for customers to use the service (Meuter et al., 2003).

Despite the evidence of the growing use of SST as a way of doing business over the last few decades, it is less clear what motivates consumers' continued use of these services (Yen & Gwinner, 2003). The factors leading to consumers' use of SST, whether internal or external, have been examined by some researchers. According to Davis et al., (1989) external variables can be defined as the constructs of computer self-efficacy, direct experience and objective usability. However, Karahanna et al. (1999) included more external variables such as trainability, compromising compatibility, result demonstrability and visibility.

In spite of the potential financial benefits of SST, the savings from such technologies cannot be realised until the customers accept and use these new technologies (Meuter et al., 2005). Customers will not use self-service options unless they perceive the benefits of using them and they feel comfortable with the technology (Meuter & Mary, 1998). In their study of factors affecting Taiwanese online passengers' attitudes and behavioural intention toward the use of self-checking in services, Lu et al.

(2009), found that external stimuli have a significant effect on their attitude and intentions to use the service. While perceived usefulness and perceived ease of use have little effect on their intention, Schultze (2003) has elaborated on how the referenced group's opinions have indirectly created a positive impact on consumers' actual behaviour to use self-service technology through the mediation of perceived ease of use and perceived usefulness. Moreover, the face-to-face employees' services may influence users' intentions and attitude to SST, such as Internet-only banks. It is not surprising that bank consumers would choose a tailored service rather than an Automated Teller Machine (ATM) or online or phone banking, even if it means waiting a longer time or the requirement to leave house, because they believe that only front-desk bank employees are able to satisfy their needs. Meuter et al. (2005) proposed that consumers' need for interaction with service providers could possibly have a negative impact on their attitudes toward self-service-technologies.

External factors are not the only stimuli for consumers' usage of SST; there is also perceived behavioural influence. In this case, if users believe that they have the abilities and the capabilities to operate self-service technology, they will be more willing to adopt these SSTs. This means that, if banks' customers think they can and are allowed to use Internet-only banks, they will be willing to use such banking options. With the importance of self-control as a determinant of users' willingness to adopt SST, there are other factors that may have a negative impact on users' behavioural intentions, such as the perceived risk of using SST (Yi et al., 2006). According to Ellen et al. (1991), as the perceived risk increases and the likelihood of rewards decreases, this will reduce the motivation to use an SST and will hinder the feeling of having the ability and desire to learn about the SST. Therefore, if consumers of Internet-only banks realise the high risk of using such banks, and the bank SST provider fails to motivate them with external incentives, such as the lower transaction costs of Internet-only banks, their willingness to try these banking services may lessen. Moreover, their desire to obtain the skills needed to use SST will be low. In the case of Internet-only banks, even though SST provides a significant time saving for banking customers, many banking customers who

are unsure of the security of the system or lack the abilities to use such system may hesitate to use it. In addition, consumers may avoid the use of self-service technology even they perceive the advantages of such technology, because they find it uncomfortable (Meuter et al., 2003).

Meuter et al. (2003) examined a sample of 823 consumers to explore the usage patterns and benefits of self-service technology and to assess the influence of individual characteristics and technology anxiety on usage patterns and satisfaction levels. They found that the higher the technology anxiety, the lower the SST usage. They also found that technology anxiety also influences the overall level of satisfaction and intention to reuse the SST, so consumers' likelihood to participate in positive word-of-mouth is also found to be influenced by their technology anxiety.

Meuter et al. (2003) focus on compatibility, relative advantage, observability, trialability, and perceived risk as important characteristics of innovation. They studied two SSTs for ordering prescription repeats, one using a telephone system and the other an Internet-based system. Both options are fully automated; the customers do not talk to a company representative and there are no financial cost differences for customers between the ordering options. Meuter et al. (2005) found that readiness had a significant direct effect on trials in both options. Therefore, consumers' readiness can be recognised as a strong predictor of the results of trials. The authors suggest that role clarity and extrinsic motivation are dominant consumer readiness variables in prediction for trials. In addition, they advise that future research may include the socialisation of consumers, provider characteristics, and consumers' group feedback.

Even though SST has been increasingly used by many service providers, there is still not enough understanding of how the absence of human interaction may affect the relationship between service providers and consumers (Selnes & Hansen, 2001). Moreover, *“it is important to understand the long-term implication of shifting customers*

away from interpersonal interactions, which are traditionally viewed as important elements for establishing trust and loyalty in service contexts” (Meuter et al., 2005: 65).

In summary, research into the value of SSTs values the advantages for both the provider and the consumer, but also stresses the importance of motivating consumers to use SST in order to fully utilise such benefits. They also realise the importance of integrating internal and external factors that may motivate or hinder individuals from using such technologies.

The next section of this chapter concentrates on discussing one of the SSTs that has been introduced to the market in the last decade but to which there is still some resistance. The next chapter discuss Internet banking. The choice of Internet banking to be studied is based on the popularity of the service. Internet banking is one of the SSTs that have been introduced in almost all countries.

3.3 Internet banking

This section of chapter two is dedicated to discussing IB. The section starts with presenting definitions of IB and differentiates Internet-only banks and e-banking. This is follow-up with discussion of the important of IB for the organisations and individuals. The section then discusses the IB consumer satisfaction. The section then concludes with a discussion of the important factors that influenced consumers IB adoption.

3.3.1 Definitions of Internet banking

Before discussing the literature on Internet banking, it is important to define IB and distinguish it from e-banking. The electronic banking concept has been defined in many ways. Karjaluoto (2002) states that electronic banking can be seen as a banking method that utilises several electronic distribution channels. On other hand, Daniel (1999) defines it as the delivery of information and services by banks to their customers via different delivery platforms that can be used with different devices such as personal

computer, mobile phone, telephone or digital television. On the other hand this definition of IB is provided by Prakash and Malik (2008: 84), “*the use of technology to communicate instructions and receive information from a financial institution where an account is held. This service includes the system that enables financial institution customers, individuals or business to access accounts transact business, or obtain information on financial products and services through a public or private network.*”

As can be seen from the definition above, electronic banking includes more than one device to deliver banking services, which makes electronic banking larger than banking via the Internet. IB is one of the main delivery channels for electronic banking and its value to consumers and bankers is continuously increasing (Karjaluo, 2002). A bank can reach its customers through the Internet and provide them with sufficient information about its services. The bank interacts with them through its use of telecommunication systems and technology (Aladwani, 2001).

Littler and Melanthiou (2006) and Furst et al. (2000) identify two main types of IB. The first, conducted through an existing bank with a physical office such as HSBC, Barclays and Lloyds TSB, establishes a website and offers IB to its consumers in addition to its traditional delivery channels. The second establishes a ‘virtual’, ‘branchless’ or ‘Internet-only’ bank, such as Cahoot (Abbey Bank), Intelligent Finance (Halifax), and Smile (Cooperative Bank). In this case virtual banks may offer their customers the chance to carry out transactions via the Internet and to make deposits and withdraw funds via ATMs or other remote delivery channels owned by other institutions. Examples of banks providing different types of online banking are presented in table (1-1) in section (1.2) of this thesis.

The literature on online banking and IB often refers to the same concepts. According to Daniel (1999) online banking can be seen as “*the newest delivery channel for retail banking services*”. He defines online banking as several types of services which allow bank customers to carry out most of their retail banking activities such as

bill payment, interior account transfer and balance reporting via telecommunication networks without leaving their homes or organisations. IB allows bank customers to fulfil a broad range of activities via the bank website. Moreover, Furst et al. (2000) define IB as “*the use of the Internet as a remote delivery channel for banking service*”. When discussing online banking, researchers often consider it as a complementary delivery channel for traditional branch banking, not as a substitute for it. On other hand, in the case of Internet-only (virtual) banks, traditional branch banks are eliminated and banking services are completely accomplished online, without direct face-to-face interaction with bank employees. Liao et al. (1999) state that “*virtual bank can then be defined as ‘non-branch’, while the virtual banking is the provision of banking services through electronic media such as ATM, telephone, personal computer and Internet*”. In this thesis IB is conceptualised following the method suggested by Liao et al. (1999). This investigates Muslim consumers’ intention to adopt branchless, virtual, or Internet-only banks. In this thesis the researcher is interested to understand the factors that may motivate or hinder consumers from accepting and using the Internet-only banks.

3.3.2 The importance of Internet banking

What makes electronic banking different from traditional banking is that the interaction between the bank and the customer in traditional banking takes place in a branch office, which is limited in terms of both location and time. Compared to electronic banking, which is the most flexible in terms of time and place (Hitt & Frei, 2002), customers see IB as a delivery channel that offers them value because it allows them to access a full range of services that are being offered in branch offices (Karjaluoto, 2002). According to Mattila et al. (2003) Internet technology makes it possible to create banking services which are customised to fit individual customers’ needs and wants. Customers value IB features such as choice of access to a bank account, convenience, improved control over banking activities, ease of use, security and speed (Daniel, 1999).

On the other hand, bankers value IB for various reasons such as cost saving, efficiency, reaching various new segments of the population, third party integration, cross-selling, and customer satisfaction (Wang & Sullivan, 2005).

There are many reasons that persuade bank managements to reengineer bank basic activity and include online banking services. Aladwani (2001) suggested that one of the important reasons is management desire to meet the challenges and create new opportunities. A bank may also be affected by inside '*demand forces*' such as improvement of administrative processes and running costs. These internal and external forces may drive a bank to adopt new technologies such as online banking.

According to Stamolis (2008), banks differ in their rate of movement toward IB. Some follow their competitors, while others prefer to wait and see, and some create a banking channel. Mintel (2000) explained the reasons that banks move toward non-branch banking. Providers of banking services found that IB offers significant lower costs, "*with transactions being 5% or even less the cost of a full branch transaction*". Furthermore, Littler and Melanthiou (2006) mentioned that online banking allows many suppliers to reach new markets at low cost and "*many even facilitate cross-selling of other financial products*". Consumers also found online banking convenient both in time and place, allowing comparison between banks to reflect the lower costs of providers.

With regard to what has been stated above, it could be said that providing banking services through the Internet will achieve success for the bank, as customers realise the importance of banking service via the Internet. Therefore, they may be willing to accept such services without hesitation. In addition, it could be suggested that the banks realise the importance of this type of technology in reducing operating costs and their contribution to wider access to sectors of the market. Therefore, the banks would not hesitate in the development and expansion of electronic services. They may depend on the Internet for the provision of such banking services and seek to reduce

their physical branches. Gradually they become a fully electronic banking services provider.

According to a study conducted by Nottingham University and sponsored by the Economic and Social Research Council, “*banks and building societies closed around 4041 branches, and opened 1074 between 1995 and 2003*” (Finextra, 2006a). In contrast to Nottingham University’s study results, a Forrester Research study indicated that “*over half of UK customers still visit a branch each month and British consumers are among the most frequent branch visitors in Europe, with 55% of the 2000 + customers surveyed visiting a branch monthly, mainly for routine tasks like depositing cheques and withdrawing cash*” (Finextra, 2006b). These contradictory results may refer to a misunderstanding of consumers’ behaviour by bank managements. As the last study indicated, banks are far from moving to fully-automated services because consumers hesitate to adopt them. Therefore, there is a need for an in-depth understanding of consumers’ perceptions of risk and trust and any other related factors which may influence customers’ decision to use banking channels.

Thus, most of the studies of online banking adoption concentrated on the first type of IB presented by Littler and Melanthiou (2006). As mentioned earlier in this section while, branchless banking has not received enough intention. This could be attributed to the lower popularity of the branchless banks or to the false assumption that consumers did not see differences between them. Yousafzai (2005) suggested the importance of studying consumers’ acceptance of branchless banks, as she believed that consumers’ perceptions of the degree of risk and uncertainty of such banking methods are higher than those of ordinary IB.

3.3.3 Internet banking consumer satisfaction

It is well established that customer satisfaction has an effect on customer retention and profitability (Anderson, 1994). An understanding of the factors that lead to consumers’

dis/satisfaction in self-service technologies is very important, especially for customer-firm relationship management (Matthew et al., 2000). Freed (2005) suggests that customer satisfaction can be used to assess how effectively the bank web site achieved the objectives of customer acquisition, retention and an *“increased share of the wallet”*. Mattila et al. (2003) stresses how customer satisfaction is the key to success in IB. That means the banks need to use different media to customise products and services in a way that is commensurate to customers’ needs and wants. In a survey study of more than 2000 Austrian online banking customers, Floh and Treiblmaier (2006) found that trust and satisfaction in online banking directly affected the loyalty of e-banking customers. Moreover, Lim (2003) emphasises the importance of tailoring products and financial services in a way that can satisfy customers’ needs and wants in addition to the ability to achieve better performance and quality in line with the expectations of the customer. He also stresses that the success of online banking services will be achieved only in this way. Campbell (2007) suggests that attracting and retaining more profitable customers is the primary benefit of IB.

Matthew et al. (2000) found that three major groups of factors may lead to consumers’ satisfaction with self-service technologies experience. They also found that four major groups of factors may lead to consumer dissatisfaction. In their research they stress *“self-service technologies ability to bail customers out of immediate or troubling situation”* as one of the factors which may lead to customer satisfaction. They also suggest that those who provide technology have an advantage over their competitors who do not offer a self-service technology alternative. Moreover, they state that the ability of self-service-technologies to do *“what it was intended to do”*, will lead to consumers’ satisfaction with the service. On the other hand they suggest that *“the largest dissatisfaction group”* with self-service-technologies is *“technology failure”*, which refers to the situations when consumers cannot use the service due to its incapability to serve them.

Buys and Brown (2004) found that IB websites possess some similar characteristics to other websites in terms of marketing digital products and services. The most important of these was the information content about banks' accounts, transaction-quality and innovativeness of services provided to manage finance and transactions. It was found that there was no widespread dissatisfaction regarding security issues. However, regression analysis indicates that security may be a major influence on usage, together with customer support, which means that security concerns will have some impact on satisfaction.

Consumers are now more satisfied with online banking services than in the past. However, certain elements of online banking have prevented them from depending totally on it. In a survey conducted by FreeSeen, teamed with Forbes.com and cited in Freed (2005) "*The goal... was to use the framework of customer satisfaction to understand and quantify the role of online banking in bank's success*". Customer satisfaction with three types of financial institutions: community banks, large banks and credit unions was studied. The key findings were as follows:

Online banking satisfaction has surpassed satisfaction with the overall banking experience. Highly satisfied online bankers are nearly 39% more likely to purchase additional products and services from their bank than very dissatisfied online banking customers. Prospects for online banking cite convenience (79%) and the ability to pay bills online (38%) as key motivators to sign up for online banking services. However, concerns about privacy continue to hold them back. 34% cited privacy as a key issue. Online bankers who use six or more online features are 15% more satisfied and 23% more likely to purchase other products and services from the bank than those who use only one or two online features. Online bill paying customers are 17% more likely to purchase more products and services, increasing their share of the wallet, and 34% are more likely to recommend their bank's website, which fosters greater online banking and bill payment adoption. Credit unions outperform large banks and community banks when it comes to satisfaction with online banking. Offline bank channels are the leading source of information about online banking. To reach online customers and prospects outside of bank channels, online news sites are the preferred source of business news and information (Freed, 2005).

It could be concluded from the above results that the more experience that consumers gain from IB, the more the chances are that they will be satisfied with it. This could be related to the lesser chance that problems will happen during a service encounter and the greater confidence and trust the user gained through continued use of IB. In the study of online banking customer satisfaction, there is some interest in understanding the elements that may drive such satisfaction. The FreeSeen study cited in Freed (2005) has concluded that the drivers to online banking customer satisfaction are *“general web site features and functions such as navigation, task/ transactions and content, as well as banking-specific satisfaction drivers such as bill payee set-ups”*. Also, *“people using online banking report the highest level of satisfaction with elements of content and functionality”* (Freed, 2005). The functionality could be viewed in terms of the ease of use of the IB and the content could be related to the usefulness. That means that PU and PEOU are more likely to lead to satisfaction, which can be defined as a positive feeling toward the IB.

Online banking consumers’ adoption rate is growing. *“According to the payments association Apacs, figures for the first half of 2006 show that web banking users have almost doubled since 2002 and 16.9 million adults -over a third of adult population in UK – now use online banking services”* (Finextra, 2007a). According to a US study by Tower Group, *“Internet banking growth is out placing retail delivery channels and raising at an annual rate of 27%”* (Finextra, 2007b). BBC (2001) reported that the rate of IB adoption has been slower than originally envisaged. It also concludes that many people are still using the traditional bank branches and those consumers prefer branch visits to other banking methods.

Even though the numbers of online consumers are growing, consumers who are interested in online banking studies show they still prefer to use more than one channel to conduct their banking business. As FreeSeen’s survey cited in Freed (2005) concludes,

Despite the growing adoption of online banking, customers are still using multiple channels to conduct their banking business. Seventy-two per cent of online bankers in our survey also visited a bank branch in the past 90 days, while 35 contacted their bank via phone in the same time period. While use of offline channels didn't necessarily decrease, the benefit to banks that encourage online bankers to perform more functions online is a more satisfied, more loyal customer who will reward the bank with a greater share of wallet and recommend the bank's website to others, which will increase adoption (Freed, 2005).

It is clear from the literature that customer satisfaction is an important factor in the success of banks in customer acquisition and preservation in general. Since the banking services via the Internet are an extension of traditional banking services, banks that offer online banking should be working hard to earn customer satisfaction through the continuous development of their services to fulfil the requirements of those customers. They should also work to remove all obstacles that could lead to disruption of the clients when using this service. The literature also reveals that even if the consumers are satisfied with IB they will still hesitate to totally utilise all the IB features and give up branch banking. Therefore, there is a need to investigate the reasons behind consumers' reluctance to adopt IB.

3.3.4 Factors affecting consumers' acceptance of Internet banking

This section concentrates on the factors that influence consumers' IB adoption. As discussed in chapter two, consumers' information technology (IT) adoption behaviour can be predicted with regard to factors such as PU, PEOU, attitude and perceived control. This section elaborates on this by discussing factors that influence IB behaviour. The section starts with presenting some of the studies in IB consumers' adoption behaviour. The section is then deals with some of the factors that the literature refers to as important in IB acceptance.

3.3.4.1 Studies in consumers acceptance of Internet banking

Users' attitudes to new technology can have a critical influence on technology adoption (Davis, 1989). According to Kolodinsky et al., (2004), consumers who have positive

attitudes toward e-banking are two to ten times more likely to use e-banking services. Moreover, consumers' experience of IB is important in their adoption decisions. Those who have used IB before usually have confidence that IB is reliable, while those who have not used it seem to distrust financial transactions made through Internet channels. Furthermore, those who are non-users of IB are likely to hold negative attitudes to it. Therefore, it should be noticed that consumers often respond differently to Internet banking when they have different opportunities regarding costs of time, ability, and attitudes to IB (Rotchanakitumnuai & Speece, 2003).

Table (3-1a). Summary of IB acceptance studies

Authors / year	Research context	Sample size	Data collection method	Results/ comments
Wan et al. (2005).	Hong Kong.	150 Banks' managers 164 individuals.	Interview – Questionnaire.	-Psychological beliefs about channel attributes were more predictive of ID adoption. - Demographics were strongly associated with adoption.
Shin and Fang (2004).	Taiwan.	425 Personal Banking customers	Questionnaire.	- DTPB has better explanatory power for BI, attitude, & SN than TRA & pure TPB models.
Jaruwachirathanakul and Fink (2006).	Thailand.	528 Internet users in large companies.	Questionnaire survey.	- Attitude factors of website features & PU were the most to encourage IB adoption. - Moderators such as income and Internet experience had significant impact on IB adoption.
Gerrard and Cunningham (2003).	Singapore.	-8 IB user + 8 non-users -240 downtown employees. Interviews questionnaire.	Interviews questionnaire.	- Adopters and non-adopters had similar beliefs about desirability, confidentiality, accessibility, and economic benefits.
Kolodinsky et al. (2004).	USA.	Data used from national census.	Survey.	- Relative advantage & compatibility were significant for all types of e-banking - Moderators affect the e-banking adoption.

13 Table (3-1b). Summary of IB acceptance studies				
Authors / year	Research context	Sample size	Data collection method	Results/ comments
Curran and Meuter (2005).	Northern USA.	628 individuals.	Random telephone questionnaire.	-The impact of attitude antecedent beliefs (usefulness, ease of use, need for interaction, & risk) varied depending on the technology adopted (e.g., risk was important determinant of attitude toward online banking but not ATM).
Pikkarainen et al. (2004).	Finland.	268 students + individuals+ employees.	Questionnaire.	- In addition to TAM's two constructs, perceived enjoyment, information, and security & privacy had an impact on the IB -adoption.
Eriksson & Nilsson. (2007)	Estonia.	1831 bank customers.	Questionnaire.	- Confirmed TAM's findings regarding PU & EOU. - Trust is an antecedent of PU & PEOU.
Lassar et al. (2005).	Eastern USA.	349 business school students.	Internet survey.	- Positive relation between Internet's related innovativeness and online banking.
Guriting and Ndubisi (2006).	Malaysia Borneo.	133 bank customers.	Questionnaire.	- PU & PEOU are strong determinants of BI to adopt IB. - Self-efficacy & prior computer experience have an indirect effect on BI through PU & PEOU.
Ndubisi and Sinti (2006).	Malaysia.	126 Internet individual users	Online questionnaire.	-Attitudinal factors (compatibility, complexity, trialability, and risk) play a significant role in IB adoption. -Utilitarian orientation had a significant influence on adoption but not hedonic orientations.
Laforet and Li (2005).	Six major cities of China.	128 respondents.	Structured Interviews.	Most of the users of Internet and online banking in China are male, educated not necessary young. The barriers are security and the cash-carry culture, which restricts the adoption of mobile banking in China.

14 Table (3-1c). Summary of IB acceptance studies				
Authors / year	Research context	Sample size	Data collection method	Results/ comments
Chong et al.(2010).	Online banking in Vietnam.	103 responses.	A survey.	The results showed that perceived usefulness, trust and government support was positively associated with the intention to use online banking in Vietnam. Contrary to TAM, perceived ease of use was not found to be significant in this study.
Yousafzai and Yanide-Soriano (2012).	UK.	435 Internet banking users.	A survey.	Technology readiness, age and gender moderate the beliefs-intention relationship. Customers with varying levels of technology-related views and demographics hold different beliefs about technology.
Chong et al.(2010).	Online banking in Vietnam.	103 responses.	A survey.	The results showed that perceived usefulness, trust and government support all positively associated with the intention to use online banking in Vietnam. Contrary to TAM, perceived ease of use was found to be not significant in this study.
Al-Majali (2011).	Jordan.	517 university staff.	Questionnaire survey.	All six variables in this study (perceived ease of use, perceived usefulness, compatibility, trialability, trust, awareness) were found to have a significant effect on internet banking service adoption IBSA.
Al Somali et al. (2009).	Saudi Arabia.	400 customers.	Questionnaire survey.	Internet connection, the awareness, the social influence and computer self-efficacy have significant effects on PU and PEOU of online banking acceptance. Education, trust and resistance to change also have significant impact on the attitude toward the likelihood of adopting online banking.

Table (3-1d). Summary of IB acceptance studies

Authors / year	Research context	Sample size	Data collection method	Results/ comments
Al Somali et al. (2009).	Saudi Arabia.	400 customers.	Questionnaire survey.	Internet connection, the awareness, the social influence and computer self-efficacy have significant effects on PU and PEOU of online banking acceptance. Education, trust and resistance to change also have significant impact on the attitude toward the likelihood of adopting online banking.
Alsajjan and Dennis (2010)	United Kingdom and Saudi Arabia.	618 university students.	Questionnaire survey.	The results suggest the importance of attitude, such that attitude and behavioural intentions emerge as a single factor, denoted as “attitudinal intentions” (AI). SEM confirms the fit of the model, in which perceived usefulness and trust fully mediate the impact of subjective norms and perceived manageability on AI.
Mahdi (2011)	Saudi Arabia.	500 Saudi and non-Saudi respondents.	Questionnaires.	Saudi banks’ customers have very high trust in using the e-banking services and they strongly believed that the e-banking services are more secure compared with their counterpart the Non-Saudis.
AL-Majali (2011).	Jordan.	700 Jordanian university employees.	Questionnaires.	Perceived risk, trust and awareness of IB are significant factors that influence customer’s attitude toward IB.
Amin and Pagar (2010)	Malaysia’s Tabung Haji customers in Eastern Malaysia.	140 respondents.	Questionnaires.	Indicate that PU, PEOU, PC and PR are the key determinants in predicting intentions to use TAB. In addition, PEOU is significantly associated with PU, which, in turn, affecting usage intention among Tabung Haji customers about TAB.
Source: Abu Shanab, 2005; Abu Shanab et al., 2005; the researcher.				

Internet banking consumers’ behaviour has been the subject of many studies. For example, Mols (1998) investigated online banking consumers’ behavioural issues, e.g., word-of-mouth, price sensitivity, satisfaction, repurchase intentions, switching barriers and the propensity to complain. Sathye (1999) concentrated on the influence of ease of use, security, awareness and infrastructure issues on customers’ adoption of online banking and pricing resistance. A number of relevant extensions of TAM to IB include

culture as a factor influencing either, or both, PEOU, and PU; depending on how the model was constructed and tested (Al Gahtani, 2001). Singer et al. (2008) concentrated on the importance of deciding which attributes of culture affect PU or PEOU. Tables (3-1 a,b,c,d) summarises some of the studies conducted on IB acceptance behaviour.

Some studies have investigated IB adoption in the Arab context. For instance, Al-Majali and Nik Mat (2011) use the innovation diffusion theory (IDT) to investigate Jordanian consumers' acceptance of IB. In their research model, they examine the influence of perceived ease of use, perceived usefulness, compatibility, trialability, trust and awareness in the adoption of IB. They obtained 532 responses from Jordanian university staff. They found that PEOU, PU, compatibility, trialability, trust and awareness have a significant positive effect on IB adoption. They also concluded that awareness is the most important factor and that it has a positive significant impact on IB. Al-Majali and Nik Mat (2011) stress the importance of banks' raising awareness of the benefits of IB to Jordanians through media advertising campaigns. They also stress the importance of allowing potential customers to use IB on a trial basis, and the important role of banks in providing systematic demonstrations of how to use IB on their website. Moreover, they recommended that bankers provide their consumers with secure websites in order to build trust and to encourage consumers to use IB. Although their study shed light on some of the factors that affect consumers IB adoption decisions, the study neglected to describe how Arab consumers developed trust in IB and what kind of trust that was. In addition, the study neglected to describe the role of attitude in consumer adoption.

In his study of Jordanian consumers' acceptance of IB, Al-Majali (2011) used TRA as a theoretical base to investigate the factors that shape Jordanian attitudes toward IB. Data collected from 700 Jordanian public university employees who have used IB services were analysed. The results indicated that the Jordanian customers had a high intention to adopt IB; that they used IB mostly for balance enquiries, loan applications, money transfers, downloading information bill payments and investment activity

services. Moreover, customer's attitudes and their beliefs about social influence play an important role in influencing the IB use intention. In addition, attitude and subjective norm are influenced by attitudinal belief and normative belief structures. The study indicated that an attitude toward IB is significantly influenced by perceived risk. Trust and awareness of IB are significant factors that influence customers. The study also stated that family and mass media significantly influence subjective norms. Al-Majali (2011) concluded that banks could develop a positive attitude among their customer toward IB by decreasing the perception of the risk, promoting trust and the awareness of IB services. The combination of these two studies gives a better understanding of Jordanian IB acceptance as the two studies give more explanation of the factors that shape the intention and attitudes toward IB, but the studies still neglected consumers' actual behaviour. Although the studies were conducted in different cultures to the one in which TRA and TAM were developed, the authors did not reflect on that in their studies.

In the field of IB acceptance, another interesting study has been conducted in the Arab Gulf area. Mansumittrchai and Chiu (2012) studied the characteristics of United Arab Emirates consumers and their attitudes to IB. They suggest that seven factors have impact on UAE adoption of IB, namely: difficulty, compatibility, security, trust, status, human contact and third party concerns. They used both qualitative and quantitative research methods in their study. In the qualitative phase, they conducted two different focus groups of adopters and non-adopters. In addition, for the quantitative phase, they surveyed individuals in both the private and government sectors and obtained 330 responses. They compared adopters and non-adopters according to seven factors. The results indicated that adopters and non-adopters differ in their attitudes to three factors of adoption: compatibility, human contact and trust. On the other hand, they found that there were no significant differences between adopters and non-adopters on the issues of third party concerns, status and security. Moreover, the results indicated that trust and human contact were the most important factors for non-adopters. As a result of their study, Mansumittrchai and Chiu (2012) suggested that banks should emphasise the importance of security as their first priority. They need to build confidence and trust for

customers, and as non-adopters emphasise the important of face-to-face interaction with the bank's representatives, the researchers believe that banks need to have online help for customers who need assistance. Despite this, Mansumitrchai and Chiu's study (2012) is considered one of the few studies that include the influence of the need for human interaction in IB adoption in Arabic culture. However, the small number of focus groups used and small sample size used for the quantitative study limit the study.

In the Western context, several studies were undertaken on IB adoption (Kolodinsky et al. 2004; Lassar et al., 2005; Eriksson & Nilsson, 2007; Yousafzai, 2005; Curran & Meuter, 2005). In a recent study, Yousafzai and Yani-de Soriano (2012) integrated the construct of technology readiness and demographic factors such as age and gender into TAM in an attempt to understand customers' actual IB behaviour. The integrated model was then tested on 435 United Kingdom IB users. The results indicated the important moderating influences of gender, technology readiness and age on the relationship between beliefs and intentions. Consumers with varying levels of technology-related views and different demographic backgrounds hold different beliefs about technology. The results also show that the relationship between PU and behaviour was stronger for younger males with high levels of optimism and innovativeness while the relationship between PEOU and behaviour was stronger for older females with a high level of discomfort. Their study differed from other studies that have been discussed previously in this section, as they emphasised studying consumers' actual IB behaviour. Thus, they overcame one of the limitations of the studies that used TAM and were discussed in section (2.2.3) of this thesis.

3.3.4.2 Motivators and barriers to consumers' adoption of Internet banking

Kuisma et al. (2007) identify the reasons for consumers' opposition to adopting IB as functional and psychological barriers, including risk barriers, usage barriers, value barriers, tradition barriers and image barriers, that had restrained the level of IB adoption. On the other hand, Laukkanen et al. (2007) classified non-adopters into four

categories: psychological resistors, functional resistors, dual resistors and non-resistors. Adopters and non-adopters differed in their perception of online banking on the basis of compatibility, trust and human contact (Mansumittrchai & Chiu, 2012). What makes non-adopters less willing to accept IB is that they did not trust financial transactions made via online channels and had a negative attitude to IB (Rotchanakitumnui & Speece, 2003).

This section presents some of the motivating or hindering factors that have been indicated in prior technology acceptance literature and which are expected to influence consumers' acceptance and use of Internet-only banks. Perceived risk in IB, consumers' awareness of IB, consumers' previous experience in technology, consumers' innovativeness, socio-demographic and psychographic control variables, consumers' need for human interaction, the social influence, consumers' trust in IB, consumers' attitude toward IB and cultural factors.

3.3.4.2.1 Perceived innovation characteristics

This section of the study presents a review of the related literature for the five attributes of innovation (relative advantage, complexity, trialability, compatibility and observability). In this section, discussions of relative advantage and perceived usefulness are combined, as they refer to the same construct. From the same perspective, a discussion of complexity and perceived ease of use is also conducted in order to identify contradictory views of innovation. In addition, even if all these five constructs are discussed through the rest of this section, it should be stated that not all of these constructs were consistent. Inconsistency was reported for observability and trialability; while most studies found that compatibility and relative advantage was positively and consistently correlated to the adoption of innovations. The same results were also seen for complexity, as the study indicated that it negatively influences the adoption of innovation (Tornatzky & Klein, 1982; Rogers, 2003).

Rogers (2003) classified five innovation characteristics that can influence individual's adoption rate: relative advantage, compatibility, complexity, trialability, and observability. Rogers (2003) also proposed that innovations with high observability, relative advantage, compatibility, trialability, and less complexity would be adopted more quickly. Rogers's innovation characteristics have received wide attention in the academic arena in the last decades (Hoffmann et al., 2012). The importance of innovation characteristics for adoption intentions and behaviour was confirmed by previous research (Arts et al., 2011; Rogers, 2003). According to a recent meta-analysis conducted by Arts et al. (2011) innovation characteristics were able to explain 36 percent of the observed variance for adoption intention. In their study of the diffusion of Internet banking among Singapore consumers Gerrard and Cunningham (2003), investigated the factors that motivated individuals to adopt IB. They were able to identify innovation characteristics; namely confidentiality, accessibility, less complexity, convenience, more compatibility and being more suited to those who were PC proficient.

One of the innovation characteristics believed to enhance innovation diffusion is the relative advantage introduced by Rogers (2003). According to Rogers (2003: 212), "*relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes*". As has been discussed in section (2.2.7) of this thesis, PU resembles the relative advantage construct in the innovation diffusion theory (IDT). PU is defined by Davis (1989: 320) as the "*degree to which a person believes that using a particular system would enhance his/her job performance*".

The positive relationship between relative advantage, adoption intention and behaviour has been supported by previous studies related to financial services (Lockett & Littler, 1997; Gounaris & Koritos, 2008; Püschel et al., 2010). Convenience has been identified by some of innovation studies as a measure of relative advantage (Gerrard & Cunningham, 2003). Convenience (Polatoglu & Ekin, 2001; Suganthi et al., 2001) and economic benefits (Black et al., 2001; Polatoglu & Ekin, 2001) have been recognised as

two relative advantages by studies conducted into the self-service technologies used in banking. Also independence (Black et al., 2001) and performance (Polatoglu & Ekin, 2001) are generally identified as relative advantages in e-banking.

According to TAM, assumptions about perceived usefulness predict information technology (IT) use and intention to use it (Adams et al., 1992; Hendrickson et al. 1993; Igbaria et al., 1995; Subramanian, 1994; Igbaria et al., 1996; Gefen & Straub 1997; Gefen & Keil, 1998; Dishaw & Strong, 1999; Agarwal & Prasad, 1999; Karahanna et al., 1999; Teo et al., 1999; Lin & Lu, 2000; Venkatesh and Davis, 2000; Gefen et al., 2000; Moon & Kim, 2001; Horton et al., 2001; Venkatesh et al., 2003). Previous studies of technology acceptance have shown a strong direct influence of PU on behavioural intentions (Davis, 1989; Davis et al., 1989; Venkatesh & Davis, 1996; Venkatesh & Davis, 2000; Venkatesh & Morris, 2000; Venkatesh & Bala, 2008). Therefore, it is expected that those who perceive online banking as a useful innovation will be likely to adopt online banking.

According to Rogers (2003: 15), “*Complexity is the degree to which an innovation is perceived as difficult to understand and use.*” The PEOU is opposite of the construct complexity in IDT. PEOU is defined by Davis et al. (1989: 320) as “*the degree to which a person believes that using a particular system would be free of effort*”. A significant number of studies have found that complexity or ease of use has an important influence on the intention to use or to adopt innovation (Chau & Lai 2003; Venkatesh & Davis, 2000; Venkatesh & Morris, 2000). While ease of use can motivate individuals to use technology, the complexity of the technology could hinder individuals in using it. However, the perception of complexity usually decreases as users gain enough experience of the innovation. Black et al. (2001) indicated that there is an inverse relationship between a consumer’s experience and their perception of the complexity in conducting financial transactions over the Internet. Moreover, complexity decreases if users are familiar with compatible innovations. For instance, well-educated individuals who are familiar with the Internet and email do not find IB complex

(Polatoglu & Ekin, 2001).

In the studies on IB acceptance, it is suggested that PEOU can be considered in terms of ease of learning, ease of management, and ease of navigation (Al Hajri & Tatnall, 2008). It is important for the IB to be easy to use. Also, flexibility in system design to facilitate options for customers is important when designing IB services (Dabholkar, 1994).

Another characteristic of the innovation that has been investigated in technology acceptance studies is observability. Observability and relative advantages are more important in the early stages of technology adoption (Henrichs, 1995). Rogers (2003: 244) defines observability as *“the degree to which the results of an innovation are visible to others”*. Black et al. (2001) define observability as the extent to which an innovation is visible to the other members of a social system. Rogers stated that it is not important that the innovation is obvious to the others in the social system but that its results are. However, for Black et al. (2001) innovation itself is the important component that should be visible to others. The importance of observability in Internet banking has not been considered as important characteristic that could influence IB adoption. Black et al. (2001) argue that observability may not contribute to the adoption of IB. Gerrard and Cunningham (2003: 20) reach the same conclusion, *“it is not possible for others to view the results of customers who use Internet banking unless, as adopters, they are prepared to show the results of their financial dealings to third parties. This is most unlikely to happen”*.

In addition, Al-Majali and Nik Mat (2011) believe that observability is not relevant to IB as the use of IB is usually conducted in private. Therefore it will not be visible to others. Despite this, Al-Ghaith et al. (2010) believe that it could be viewed by *“measuring individuals’ knowledge about the e-service and its benefits.”* They also propose that using public media such as newspapers or TV could help in creating knowledge about e-service benefits. Al-Ghaith et al.’s (2010) suggestions look

reasonable, as a way to develop awareness of the innovation. It is obvious that there is some confusion between the concepts of awareness and observability. As stated earlier, observability relates more to the evaluation of the social surroundings of user adoption of an innovation while awareness is more related to providing the potential users with information about the benefits and uses of the innovation as a way to enhance the user's adoption of the innovation.

Meuter (1999) argues that observability is important for SST acceptance. The current study assumes that even though consumers may use IB in private, they may sometimes engage friends and relatives while using IB or at least believe that mastering of IB is important and can be observed by others.

One of the innovation characteristics that Rogers (2003) has mentioned and which is clearly important for technology adoption is compatibility. According to Rogers (2003: 242) "*Compatibility is evaluated relative to the adapter's socio-cultural values and beliefs, previously introduced ideas, and client needs for innovation difficult to understand and use*".

Previous research on innovation characteristics' influence on adoption behaviour has indicated that compatibility is positively related to innovation adoption and diffusion. (Tornatzky & Klein, 1982; Moore & Benbasat, 1991; Meuter, 1999; Tan & Teo, 2000; Rogers, 2003). It has also been observed that incompatibility might restrict further innovation use and implementation (Premkumar et al., 1994; Liao et al. 1999).

In IB there is some compatibility of banking services and operational system design with over-the-counter banking services (Liao et al., 1999). Consumers perform financial and banking transactions online with the same objectives as when they perform them in the bank branch, only in a more independent, effective and efficient manner. Therefore, IB could be described as an innovation that is consistent with the past

experiences, the existing values and needs of the branch banking system (Lai et al., 2010).

Compatibility is a significant determinant of PU (Chau & Hu, 2001; Venkatesh & Davis, 2000). Therefore, consumer's perceptions of the compatibility of online banking with their needs and banking experience will motivate them to use such innovations for the specific positive outcomes associated with using it (Lai et al., 2010). Lai et al. (2010) argue that compatibility is also associated with PEOU. They believe that if IB has value and practical compatibility with preceding systems, bank customers will be more motivated to try to use a system that will facilitate their perception of its ease of use. Moreover, Chau and Lai (2003) believe that individuals' learning behaviour is associated with PEOU and compatibility. If there is compatibility between consumers' past experience and the new system, users will spend less time comparing and translating experiences between the two systems, which will enhance their PEOU of the system.

Internet banking is considered compatible with consumers' experience of using the Internet. Therefore, it is expected that Internet users who are comfortable with the Internet will be more willing to be more positive about IB (Gerrard & Cunningham, 2003). In their study of IB acceptance in Turkey, Polatoglu and Ekin (2001) indicate that respondents who prefer to deal with branch banking and have a low level of usage of email believe that Internet banking is less compatible.

The fifth innovation characteristic that has received attention in technology diffusion studies is trialability. According to Rogers (2003: 16) trialability refers to the "*degree to which an idea can be experimented with on a limited basis*". The trialability of innovation is important as it contributes to giving the user some sort of comfort that may help in facilitating the adoption of the innovation (Rogers, 2003). Previous studies have shown that if consumers are allowed to try the innovation before making a commitment to adopt it, this would lessen their fears related to the use of this technology

(Tan &Teo, 2000). There is an inconsistency in the relationship between trialability and IB. Some studies indicated a significant influence of trialability on IB (Hernandez & Mazoon, 2007). On the other hand Dauda et al. (2007) indicated that the relationship between these two constructs is insignificant.

With regard to trialability, it is assumed that those who have the chance to try the innovation will be more likely to adopt it than those who have not had the chance to try it. Trials of the innovation give potential adopters confidence that the results of using the innovation will meet their expectation (Agarwal & Prasad, 1997; Tan & Teo, 2000; Rogers, 2003). However, in the IB context, trialability can be viewed as the user's ability to access and try the bank website and try using its services. This is difficult unless the user is already committed to using the IB services and to receiving the password and user ID from the bank.

3.3.4.2.2 Perceived Risk in Internet banking

Consumers' perception of transaction accuracy, network speed, user friendliness and transaction security are key elements in IB success (Lim, 2003). In the FreeSeen and Forbes.com survey cited in Freed (2005) they found that,

There is a large gap between the perceptions of privacy for people who are currently using online banking and those who aren't...The survey results show that potential online customers are more concerned about privacy compared by current online customers, who say they are not concerned.

It could thus be concluded that once the consumer becomes involved in the online banking experience, his/her fears of privacy risk decrease. Therefore, bankers need to urge customers to try online banking and to assure them that the bank will be responsible for securing their privacy. Taylor (2005) stated that privacy was still one of the big barriers to potential online bank customers. He asserts that those who worry about the security of their personal information will be less willing to use online

banking. This is somewhat consistent with the findings of the FreeSeen and Forbes.com survey.

Bhimani (1996) mentioned that a lack of Internet security could determine individuals' adoption of IB. Perceived risk can influence consumer behaviour in a powerful way. According to Mitchell (1992), perceived risk influences the five stages of the consumer decision process. Pavlou (2003) argues that e-commerce creates both an economic and a privacy risk for consumers and that their perceived risks are strongly related to their intention to use e-commerce. Concerns about security, customers' distrust, privacy, the difficulty of maintaining the site, legal concerns, and cost are some of the factors that restrict consumers from adopting online banking (Nath et al., 1998; Gupta, 2000). Littler and Melanthiou (2006) point out that the issue of perceived risk did not receive as much attention as that of uncertainty.

Elkin and Hallerman (2003) argues that the great attention given by the media in regard to stolen credit card numbers, online hacking and identity theft played a negative role in consumers' IB adoption decision. Robinson (2000) found that half the people who had tried online banking services would not become active users. This could be because consumers are usually worried that the technology-based service would not satisfy their expectations, and they would be more concerned about how fast their problem would be solved (Walker et al., 2002). Transaction risk is an important issue for most consumers. According to Westland (2002), the transaction risk usually appears when the service provider fails to assure the customer that adequate quality is guaranteed. The slow response time after the interaction with the service provider's website will lead to a service delivery delay which can lead to consumer perceptions of risk, as they will not be sure if the transaction was completed (Jun & Cai, 2001).

Understanding perceived risk in consumers' e-behaviour is important in every stage of the introduction of innovations to the market, but it becomes crucial in the early stages in its introduction. Mitchell (1999) claims that during the early stage of

innovation, a consumer will not be able to get much information about it, as sometimes the information will be contradictory, and a consumer will have limited opportunity to experience the innovation. Therefore, it is expected that consumer behaviour will be affected by perceived risk.

The different types of risk consumers' may encounter through their use of innovation have different influences on their innovation adoption decisions. For instance, perceived physical and social risks enhance consumers' tendencies to gain unfamiliar information about innovation. On the other hand, financial risk has a negative impact on the tendency to obtain unfamiliar information about innovation. However, network externalities, time, psychological and performance risks show no significant relationship with the propensity to obtain information about innovation (Hirunyawipada & Paswan, 2006).

During the early stage of an innovation's introduction, consumers may face considerable risks. Somehow, this risk may affect customers' decision making "*with regard to an innovative offering*". Moreover, product features and some other factors could affect consumers' adoption and diffusion of an innovation. In the case of significant innovations, useful and realistic information may be scarce and sometimes there is much contradictory speculation and lack of knowledge, and reassuring information may not be available (Littler & Melanthiou, 2006: 436).

Littler and Melanthiou (2006: 437) stated that in terms of risky innovation, uncertainty appears along with difficulty in imagining outcomes. They state that uncertainty is different from risk and point out that "*research risk is often based on the assumption that consumers have access to sufficient reliable and valid information to enable them to evaluate innovative offerings. While in uncertainty the case is not the same*". They suggest that consumers' inability to comprehend what might happen affects the way they react to innovations and offers.

There are several kinds of risk that consumers can face during their use of innovation. Kaplan et al. (1974) identified five kinds of risk: physical, performance, financial, social and psychological. Roselius (1971) added time-loss risk. In the marketing field perceived risk is defined as “*the nature and amount of risk perceived by the consumer in contemplating a particular purchase action*” (Cox & Rich, 1964: 33). In the other hand, Ostlund (1974: 24) defined perceived risk as the “*degree to which risks are perceived as being associated with an innovation*”. Cox’s definition is rather general as it refers to risk in all purchasing decisions. In the other hand, Ostlund’s definition is related more to innovation adoption decisions. Therefore, for the purpose of this study Ostlund’s definition can be adopted, as it is more relevant to IB behaviour. Perceived risk often has a negative impact on financial services consumers’ adoption behaviour (Koenig-Lewis et al., 2010; Riquelme & Rios, 2010; Ozdemir & Trott, 2009). Littler and Melanthiou (2006: 436), present several dimensions of risk in the context of online banking.

Financial risk refers to the cost the user may be involved in when using IB. This includes the cost of access to computing facilities or the Internet. Even though the user may use others’ computers there is still a perceived financial risk related to potential loss because of deficiencies in the operating system or the misappropriation of funds through illegal external access.

Performance risk represents the risk related to the ability of the consumer to manage the transaction or “*to effect the transaction within what is considered a reasonable time*” (Littler & Melanthiou, 2006: 436). That means that performance risk is related to the ability of the product performance to meet user expectations. It also includes the website’s effectiveness, and the ability of the website’s new services to meet the consumer’s requirements (Hoffman & Novak, 1996). Littler & Melanthiou (2006) argue that users usually evaluate performance risk by referring to knowledge and cognitive abilities within a certain product domain. Online financial services are not easy to try before adoption. However, some banks have solved this problem by developing websites

that allow potential users to try out IB services before committing to them (Gerrard & Cunningham, 2003). Allowing consumers to try the service may confirm its ease of use and make consumers more confident with a highly-perceived performance risk (Agarwal & Prasad, 1997).

Time-loss risk refers to the possibility that the consumer may devote additional time to buy, uses, or dispense a product or a service (Hoyer, 1997). If IB requires the consumer having significant time to learn how to use the website or more time to operate transactions, then Internet banking will be considered a high risk (Lim, 2003). The comprehensive information about products and services available on banks' websites is an added benefit for consumers as they give support in making more rational decisions, but at the same time they increase the time-loss risk as consumers spend much time reading different information about alternative options. Moreover, there is the time consumers sometimes spend figuring out how to use a certain banking website. Not to forget the additional time often spent waiting for the website's response. In addition there is the time loss related to dealing with error transactions if they appear (Littler & Melanthiou, 2006). Furthermore, time-loss risk may occur due to a poor Internet connection that may make the user frustrated with its the slow connection (Jayawardhena & Foley , 2000).

Social risk the kind of risk concerned with consumer perceptions of other people regarding Internet behaviour (Lim, 2003). Consumers' social standing may be affected by adopting IB, because of the perception of IB being negative or positive (Littler & Melanthiou, 2006). The social risk often stems from "*attracting unfavourable attention and response from purchasing a particular product*" (Aldás-Manzano et al., 2009: 56). Family, acquaintances or peers' perceptions of Internet banking services may influence the Internet user's perception of their social status (Littler & Melanthiou, 2006).

Security risk refers to the most serious disadvantage of IB with fears about "*external intrusion resulting in security of personal financial details or even the removal of money*"

from accounts” (Lim, 2003: 222). In regard to the importance of security risks, Chung & Paynter (2002) indicate that fears of transaction security are a handicap in the adoption of IB. According to Lim (2003) it is important for businesses to ensure that their security measurements are upgraded and that their websites are safe to decrease the perceived technology risk to their consumers. Consumers usually associate security risks with money loss. Previous studies of online banking have indicated that security risks are an important predictor of online banking adoption (Sathye, 1999; Gerrard & Cunningham, 2003; Lee & Lin, 2005; Cheng et al., 2006). According to Cheng et al. (2006) consumers tend to buy online only if they perceive that their sensitive information and credit card number are safe.

Privacy risk is considered by some researchers to be an important barrier to e-transactions (Gerrard & Cunningham, 2003; Mukherjee & Nath, 2003; Pikkarainen et al., 2004). Pikkarainen et al. (2004) state that e-banking users want to control all aspects of their personal data collection. Therefore, if the IB users perceive a privacy risk in such services they will not use them (Howcroft et al., 2002).

It should be noted that the importance of these risk dimensions differs from one consumer to another and from one form of behaviour to another. Lim (2003) asserts that not all perceived risk dimensions have a significant effect on consumer behaviour. Even though risk is an important factor that may hinder consumers’ behaviour, there are no clear ways in how service and product providers should deal with it. Lim (2003: 222) argues *“there is no clear guidance to Internet vendors as to what they can do to reduce consumers’ perceived risk”*. He continues by suggesting that the researchers need to examine the perceived risk from a *“different perspective. That can be through identifying perceived risk sources”*.

It could be concluded from the discussion above that some types of risks are related to innovation characteristics. For instance, performance risk is somehow related to trialability, as this type of risk could decrease if the users were convinced that the IB

service would conform to their expectations. This expectation could be satisfied by allowing consumers to use IB on a trial basis before registering for the service. On the other hand, time-loss risk is related to compatibility and complexity. Consumers who are familiar with technologies similar to IB would not face a problem in getting used to IB. They would not need much time to understand it and learn how to operate it. They would perceive less complexity in it and see it as easier to use. Therefore, they would not lose time in deciding how to handle IB or to search for information in it. Moreover, observability could be related to social risk, as those who perceive IB as observable would believe that the results of their use of IB will be visible to people around them, which may make those people value the advantages of IB and perceive it positively, which would decrease the social risk the consumer may face when using IB.

3.3.4.2.3 Consumers' awareness of the Internet banking

Awareness is the first stage of the consumers' adoption process. According to Rogers (2003), knowledge represents the first exposure of the innovation to the individual. At this stage, the individual usually lacks information about the new technology, and at this stage is usually not motivated to find more information about it.

Laforet and Li (2005) argue that a lack of awareness and understanding of mobile banking benefits has presented barriers to its adoption in China. Moreover, in his study of Australian customers, Sathye (1999) found that customers were not aware of the advantages and disadvantages of online banking. Therefore, their lack of information about IB made them less willing to adopt it. Sathye (1999)'s results are consistent with what Howcroft et al. (2002) confirmed; that a lack of awareness of IB benefits could be one of the reasons for consumers' resistance to using it. Awareness of how to implement system designs that exploit the user's semantic understanding of electronic commercial process may help in building trust in electronic environments (Rea, 2001).

In their study of technology acceptance of Groupware in virtual learning teams in part-time adult education, Bjorn et al. (2003) found that social awareness plays an important role in the acceptance of such technology in supporting collaboration. Banks usually use different channels to inform their customers of services and products (Clark & Goldsmith, 2006). Sohail and Shanmugham (2004) state that awareness of the benefits and advantages of IB can have a significant positive influence on IB adoption. This is also asserted by other studies that indicate that a lack of awareness of IB and its benefits are common reasons for consumers' resistance to use IB (Sathye, 1999; Howcroft et al., 2002).

3.3.4.2.4 Consumers' previous experience in technologies

Experience refers to people's action or involvement in something over a period of time (Venkatesh, & Davis, 2000). Experience is introduced as a moderator in the technology acceptance model (TAM2), unified theory of acceptance and use of technology (UTAUT), and technology acceptance model (TAM3). Previous researches into IT acceptance have shown that experience has a significant effect on relationships and constructs that predict technology acceptance (e.g., Davis et al. 1989, Taylor & Todd 1995c, Szajna 1996; Venkatesh, 2000). Venkatesh (2000) introduced the experience variable as an extension to TAM. In his proposed model, Venkatesh (2000) suggested that experience has a direct and moderating influence on behavioural intention. Moreover, relevant literature on technology acceptance has shown that experience has both a direct and moderating impact on behavioural intention (Igarria & Chakrabarti, 1990; Igarria, 1992; Taylor & Todd 1995c; Venkatesh & Davis, 2000; Venkatesh et al., 2003).

Experience has an important role in shaping the perceptions of ease of use (Venkatesh, 2000). The influence of experience on ease of use is suggested as being direct or indirect through its influence on perceptions of external control (Venkatesh, 2000).

In the context of developing countries, experience has been introduced to investigate the influence on consumer acceptance of IT. For example, Abbasi et al. (2010) extended TAM by adding management support, social norms, and the moderating factors of experience and voluntariness. They found that experience has a significant moderating effect on the relationship between PU and usage. Following Venkatesh's (2000) assumptions, it can be expected that experience will have a direct influence on PEOU and PU.

3.3.4.2.5 Consumers' Innovativeness

Innovativeness and diffusion of innovative relationships are well-established variables in the consumer studies. Innovativeness can be defined as "*the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a system*" (Rogers, 2003: 22). On the other hand 'innovators' refers to those consumers who have the highest levels of innovativeness. According to Rogers (2003) they represent less than 2.5 percent of the population. Innovators are important to the success of innovation diffusion as they exert an influence on later adopters (Clark & Goldsmith, 2006). Consumers' involvement in IB is considered to be a relatively innovative act; therefore it is more likely that IB will be adopted by innovators than non-innovators (Lassar et al., 2005). The novel characteristics of innovation such as high price and technological complexity, with their unexpected side effects, may cause some confusion in consumers' established routines. This could cause them to resist the innovation (Waddell & Cowan, 2003).

There are two main approaches here: general innovativeness and specific area innovativeness. General innovativeness reflects an individual's openness to and search for new experiences and is a predictor of the intention of shopping (Craig & Ginter, 1975; Joseph & Vyas , 1984). Because of the degree of abstraction in the definition of general innovativeness, Goldsmith and Hofacker (1991) developed a scale to measure

innovation in a particular area. Domain-specific innovativeness (DSI) refers to the individual's capability to try innovations in his or her area of interest. Domain-specific innovativeness is considered as more predictive of the purchase of new items than general innovativeness (Goldsmith et al., 1995). The aim of domain-specific innovativeness is to explain aspects of human behaviour within a person's specific interest domain (Aldás-Manzano et al., 2009). A number of researchers (e.g., Blake et al., 2003; Goldsmith, 2001; Citrin et al., 2000) have used the domain-specific innovativeness scale in online shopping and have demonstrated the positive influence of innovativeness on decisions to purchase through this channel and in the search for online purchase information. Lassar et al. (2005) indicate that Internet-specific innovativeness positively affects IB adoption. Lassar et al. (2005) suggests the use of a domain-specific measure of innovativeness to predict e-banking adoption.

Personal innovativeness can be helpful in investigating consumers' adoption of e-banking (Lassar et al., 2005). Agarwal and Prasad (1998) introduced the notion of personal innovativeness into the IT context. They refer to it as an individual's willingness to try out any new form of IT. They state that personal innovativeness is a relatively stable predictor of an individual's acceptance of IT. There are several findings that support the relationship between innovativeness and adoption of new services. Agarwal and Prasad (1998) provided valid measures of personal innovativeness of information technology (PIIT) and indicated that personal innovativeness has a moderating influence on perceptions of new types of IT (PEOU, compatibility and relative advantage) and intentions to use new forms of IT. Moreover, Yiu et al. (2007) have studied the correlation of personal innovativeness and PEOU, PU and argue that these variables are significant to those involved in IB adoption. Hwang (2009) indicates that personal innovativeness in IT influences PEOU. Limayem et al. (2000) add that the social norms and personal innovativeness in their model of online consumer behaviour show results that indicate that both variables can have a positive influence on purchase intention.

Consumers' innovativeness has also been studied in a wide range of online banking services. For instance, Aldás-Manzano et al. (2009) analyse the influence of consumer innovativeness on IB. They investigate the direct impact of innovativeness on the adoption behaviour and the indirect impact it has through its influence on consumer perceived risk. They investigated five types of risk; namely, performance, time, social, security, and privacy risk. They tested their model using Structural Equation Modelling (SEM) techniques. Their sample consists of 511 Spanish IB services users, who were accessed through an Internet survey. The results revealed that consumer innovativeness is a significant construct related to the improvement of e-banking adoption; both directly and by its influence on decreasing consumer perception of risk in using Internet channels in the financial services context. The results also indicated that risk is a key inhibitor of IB adoption. Aldás-Manzano et al. (2009) suggested that performance risk could be decreased through offering simulators. They also recommended that banks should allow their consumers to try IB on a limited basis. They believe that allowing consumers to use IB on a trial basis will encourage adoption by reducing performance risk.

In addition, Lassar et al., (2005) investigated the relationship between self-efficacy on the Internet, consumer innovativeness, Internet attitudes and online banking adoption. They use personal characteristics as controlling variables. In their study they integrated the adoption of the innovation framework and TAM to predict IB acceptance. For the purpose of testing their hypotheses they used data obtained from 349 participants from three college campuses in the eastern United States. The results support the assumption that there is a positive significant relation between consumer innovation, utilitarian-based web use, and self-efficacy-related measures of web use intensity, income and IB adoption. On the other hand, the results indicated that the length of web usage, self-efficacy-related measures of technology comfort, age, and education did not influence the e-banking adoption process. They also found that the innate consumer innovation had a significant negative influence on consumers' levels of e-banking adoption.

3.3.4.2.6 Socio-demographic and psychographic control variables

According to Rogers (2003), the adopter of a new technology is typically educated, young, has a good income and is more reactive to innovations than the non-adopter is. Personal characteristics may influence adoption behaviour (Rogers, 2003; Branca, 2008; Yousafzai & Yani-de-Soriano, 2012). Among the most fundamental factors that influence perceptions and behaviour are gender and age (Nosek et al., 2002). Gender and age have been shown to influence perceptions of technology (Venkatesh & Morris, 2000). Gender, age, income, education are also widely used in adoption studies (Im et al., 2003; Rogers, 2003; Im et al., 2007; Prins & Verhoef, 2007; Tellis et al., 2009). Socio-demographics, household income, education, and age have been widely used to profile innovators (Lassar et al., 2005).

Studies investigated the influence of demographic characteristics on IT consumer behaviour have taken different approaches, Some studies have considered them as moderating the influence of TAM variables on technology acceptance while others have included demographics as antecedents to TAM (Yousafzai & Yani-de-Soriano, 2012).

Studies of technology acceptance refer to a negative relationship between age and technology adoption (Karjaluoto et al., 2002; Lee et al., 2002; Zhang, 2005). Age has also been found to have a negative relationship with attitudes toward computers (Yousafzai & Yani-de-Soriano, 2012). Previous studies have supported the assumption that PEOU will be a stronger determinant of older people's intention to adopt technology (Venkatesh & Morris, 2000; Monsuwe et al., 2004; Venkatesh et al., 2003). IB is not exceptional as studies in the IB context indicate that young male customers are more likely to adopt IB compared to older consumers (Sathye, 1999; Kolodinsky, 2004).

In regard to the gender influence on consumers' behaviour, previous marketing research shows some differences between genders in their consumption behaviour (Aldás-Manzano et al., 2009). In the technology context, research shows that men and

women differ in their acceptance rates of specific computer technologies, with men more likely to adopt them (Gefen & Straub, 1997). According to Venkatesh and Morris (2000) men pay more attention to the usefulness of the technology than women in making decisions regarding the use of a new technology.

In the IB context Mattilia et al. (2003) indicated that household education and income predicted Finnish consumers' adoption of IB. Sathye (1999) found that educated, wealthy, and young consumers were among those most likely to adopt IB in Australia.

3.3.4.2.7 Consumers need for human interaction

In their media richness theory, Draft and Lengel (1986), argue that the efficiency of communication is influenced by the fitness of the media and communication task characteristics. Therefore, the use of richer media leads to better performance of the same tasks, while the use of leaner media can lead to better performance for less equivocal tasks (Dennis & Kinny, 1998). According to Daft and Lengel (1987), rich media has the following criteria, "*capacity for immediate feedback, capacity to transmit multiple cues, language variety, and capacity of media to have a personal focus*". According to these criteria Daft and Lengel (1987) classify communication media used in daily life in order of decreasing richness: face-to-face, personal documents, telephone, impersonal documents, and numeric reports.

Individuals need usually determine their preferences for media richness when they need clarify the question arising in communication and fast feedback individuals seek face-to-face communication (Sun & Cheng, 2007). Banking services, especially unstandardised banking tasks such as investment advice and loans and mortgage quotes, may involve some complexity and require a lot of confirmation and clarification for consumers. Therefore, rich media that are able to provide instant feedback are assumed to be preferred by consumers. However, face-to-face interaction is important for providing both the consumer and the service provider with immediate feedback in their

communications. The lack of such feedback may influence the understanding of service providers of the consumers' needs. As La and Kandampully (2002) state, organisations are sometimes unsure why consumers switch providers because of the lack of direct interaction between consumers and service personnel.

In their study, Lo & Lie (2008: 146) investigate the factors that influence customers' selection of communication options and find that consumers choose communication tools with high information richness when faced with "*long distance communication situation involving a highly equivocal task and a low degree of trust for the party*". For highly ambiguous tasks, communication tools with greater information richness are usually selected to ensure clarity during the information exchange (Daft & Lengel, 1984). On the other hand, simple tasks need communication channels with a lower level of information richness (Daft & Lengel, 1984). "*When the communication partner is highly trusted, the tolerance level of risk during the interaction will be higher for the communicator, and the communicator will be more likely to select a communication channel with a lesser degree of information richness. Alternatively, if significant distrust exists between the partners, the tolerance level of perceived risk during the interaction will be lower, and the communicator will most likely opt for communication channel with a higher degree of information richness that transmits more information, in order to lower the degree of uncertainty inherent in the interaction*" (Lo & Lie, 2008: 148). It has long been believed that face-to-face communication is the richest medium (Deft et al., 1987). However, Ross (2001: 2) thinks that there are some challenges for the acceptance "*that face-to-face in fact results in rich communications...much room for error and omission exists in face-to-face communication*". Therefore, electronic media could be rich in certain circumstances, even if in the absence of face-to-face communication.

In the case of the use of e-communications that have been enhanced by audio and real time face-to-face communication through webcams and telecommunication, the richness of the communication channel is very high and the verbal and nonverbal cues

are available even though there is no face-to-face interaction. Consumers may prefer face-to-face communication and that may be related to their perception of the quality of services which are delivered in this way. This could be the case for some of services but the results cannot be generalised for all services. For instance, in their empirical study Johnson et al., (2000), compared online graduate course students with equivalent students who had been taught in a traditional face-to-face format and found that both groups of students had the same perceptions of the quality of the teacher and the course.

In addition, Johnson et al. (2000: 32) found that “*students were satisfied with online instruction because it provides flexibility and responsiveness for their learning requirements and expectations*”. Thus, users did not notice significant differences in the quality of face-to-face communication compared to the technology-based communication channel. This argument could be valid in situations that contain low risk and low uncertainty of outcome. But this might not be the case if the situation were one of high risk and uncertainty. Sun & Cheng (2007) studied the influence of media richness on students’ satisfaction in the context of e-learning and found that “*when the course units with high uncertainty and equivalent in content needs high richness media representation. On other hand, it is ineffective to use high richness media to promote learning performance*”. However, the study did not concede the student’s initial level of knowledge before the experience. Moreover, the subjects of the study shared the same background and performance. This study shed light on the role of this type of service in determining the need for a rich communication channel.

Some researchers have considered culture as one of the determinants of the preference of one communication media over the other. Redding (1993) refers to collectivist culture as emphasising harmony and connectedness at the expense of getting the job done, while in individualistic cultures the emphasis tends to be on achieving tasks at the expense of the family. Workers who are in low-context cultures may be more comfortable using electronic media because fewer cues are needed. Workers from higher-context cultures require many nonverbal cues to develop more trust and

understanding, so they have less preference for electronic media because of the lack of other behaviour cues (Ross, 2001). As Hitt and Frei (2002) state, the electronic delivery of financial services enables financial institutions to compete in national and even global markets. As today's financial institutions are spreading their businesses globally, there is a need to consider the differences in communication methods among different cultures.

The financial sector has moved from face-to-face means of delivering its services and products to more direct marketing in the form of mail, phone or computer. This movement has been supported by rapid advances in technology (Lee, 2002). Financial institutions have moved away from face-to-face interaction to more electronic banking, encouraged by the enthusiasm toward such technology-based channels (Hitt & Frei, 2002). Direct marketing channels provide convenience for consumers (Avery et al., 1997), and by using electronic-based financial services delivery channels consumers can conduct financial business at home during banks' off hours (Lee, 2002).

Taking into account the task-communication fit that has been discussed early in this section, Marr and Prendergast (1993)'s suggestion that e-banking should be limited to routine banking transactions, while those tasks that need high involvement, investment advice or lending, for instance, should remain personal interactions appears reasonable. According to Alba et al. (1997) the richest way of maintaining a close relationship with financial institution customers is face-to-face interaction. As face-to-face interaction allows customers to experience not only the information provided to them, but also the salesperson's friendliness, voice tone, and empathy (Kandampully, 1998).

Although consumers have moved from branch banking to IB in the last few years, Reeves & Bednar (1996), reported human interaction in service delivery as an important determinant of customer satisfaction. Therefore, financial institutions should investigate consumers' preferences about how to conduct financial transactions before they take the decision to eliminate face-to-face banking (Lee, 2002). Bateson (1985) found that consumers differ considerably in their preferences about financial services

delivery channels. While some prefer human interaction, other want electronic services, given the same location and cost for both groups of consumers. In his study Lee (2002) examines consumers' preference for face-to-face interaction versus the direct means of 15 different financial products and services and he found significant variation in consumers' preferences across range of financial products and services. Lee (2002) found that respondents preferred face-to-face interaction when buying loan products and services, while they were more likely to buy insurance products and services through direct means. According to Lee (2002), consumers can be grouped in their preference of face-to-face interaction and direct means across 15 different financial products and services in four clusters: (1) cherry pickers; (2) needing human touch; (3) undecided; and (4) open to direct means.

Financial services are complex, risky, and often difficult to evaluate in terms of quality and benefits (Beckett et al., 2000; Maas & Graf, 2008). Therefore, in banking services human contact is considered to be an important factor for consumers (Mansumittrchai & Chiu, 2012). But consumers did not give the same degree of importance to human contact. This could be observed in consumers' online banking behaviour, as adopters were more likely to require less or no human interaction when they performed transactions with the bank (Gurau, 2002). Non-adopters may resist online banking due to the lack of human contact or physical interaction (Mattila et al., 2003).

Suganthi et al.,(2001) suggest that face-to-face interaction and personal interaction between the customer and bank representatives create restrictions on the deployment of IB, especially in rural areas. Thus, the introduction of IB raises a key question with regard to what extent different customers avoid face-to-face interaction in preference to new technology that allows remote access to banking services. It may also be asked what the influencers and inhibitors of the balance between these two interaction modes may be for the various customer groups. Moreover, there is another key question for bank managers, related to the extent to which personalised interaction should or

could be removed from the front desk in banking. For customers this may be a key question (Joseph et al., 1999). In addition there should be some awareness that the implementation of online banking is taking place in different countries around the globe. That means that online banking will be implemented in different environments and cultures to those in West. Even in the West, however, observers are aware that technology may not be able to fully replace bank–customer relationships (e.g., Howcroft & Durkin, 2000). Therefore, it is important to further the understanding of consumers’ preferences in interacting with service providers. It is also important to investigate the influence of cultural factors on consumers’ face-to-face communication preferences.

3.3.4.2.8 The social influence

Social influence results from subjective norms (Venkatesh et al., 2003). Normative beliefs have been introduced in TRA and then used as a construct of social influence in UTAUT, image in innovation diffusion theory (IDT), and as subjective norms in theory of reasoned action (TRA), technology acceptance model (TAM2), theory of planned behaviour (TPB), and DTPB (Abbasi et al., 2010).

Social influence has been investigated by Rogers (2003), who suggested that there are internal and external sources of social influence technology adoption belief. According to Rogers (2003) the external sources include advertising, other marketing-related sources and mass media, and internal sources include influence from friends, family, word-of-mouth and others.

Subjective norms are also introduced in TRA. According to TRA, behavioural intentions are determined by social norms and attitudes. Several studies have investigated the influence of social norms on the online behaviour in general (Limayem et al., 2000; Venkatesh et al., 2003; Venkatesh and Bala, 2008), and on banking behaviour in particular (Al Somali et al., 2009). In terms of a voluntary environment such as e-commerce, Venkatesh et al. (2003) revealed that social influence operates by affecting perceptions about technology based on commitment development, such as

identification processes and internalisation. Moreover, Limayem et al. (2000) suggested that social norms may influence purchase intentions.

3.3.4.2.9 Consumers' trust in Internet banking

In general, trust is known to have influenced customer attitudes, intentions, and behaviour (Swan et al., 1999). The role of trust becomes more important whenever the situations contain risk, interdependence and high vulnerability (Maas & Graf, 2008). The role of trust in the financial services is significant for their success (Tyler & Stanley, 2007) in general and for the online banking services in particular. Previous research into Internet banking has indicated that there is a positive relationship between trust and the intention to adopt IB (Sohail & Shanmugham, 2004; Yousafzai, 2005; Eriksson & Nilsson, 2007; Alsajjan & Dennis, 2006; Guerrero et al., 2007; Yousafzai et al., 2009). Trust is one of the key components in the sustainability and development of business relationships (Bejou, 1997). The importance of trust becomes even more significant in online transactions. This importance could be related to the nature of IB, as transactions may include sensitive information and complicated financial processes (Suh & Han, 2002; Alsajjan & Dennis, 2006).

Ozdemir and Trott (2009) identified lack of trust as a potential barrier to the adoption of online banking. In addition, Mukherjee and Nath (2003) indicated that there is a causal relationship between trust and customer commitment to online banking. Moreover, Lee et al. (2007) state that consumers' trust had a significant impact on consumer's adoption of mobile banking services.

Many researchers into IB have identified trust as a key determinant of IB adoption. For instance, Suh and Han (2002) introduced trust into TAM's construct and found that it had a significant influence on consumers IB adoption decisions. In addition, Yousafzai et al., (2003) explored trust, using perceived security and perceived privacy as

its proxies, and in the context of the TAM, they concluded that trust could reduce perceived risk, which consequently could increase the likelihood of consumers using IB.

3.3.4.2.10 Consumers attitude toward Internet banking

Research into the adaptation of electronic commerce, including IB, indicates a significant relationship between attitude and behavioural intentions (Shih & Venkatesh, 2004; Szajna, 1996; Hendrickson & Collins, 1996; Gefen & Straub, 1997; Igbaria et al., 1995, 1997; Teo et al., 1999; Venkatesh & Davis, 2000; Suh & Han, 2002).

Although the influence of attitude has been excluded by some researchers in TAMs (e.g., Gefen & Straub, 1997; McFarland & Hamilton, 2006; Venkatesh & Davis, 2000), it can be argued that attitude can provide more understanding of consumer's intentions to adopt Internet banking especially as IB is considered a voluntary behaviour. Therefore, this research follows TRA's assumption of including the treatment of attitudes as reasonable.

Past behaviour information may contribute to developing one's attitudes (Zanna & Rempel, 1988). Evidence shows that banks are using past behaviour information to shape more favourable attitudes toward the use of IB (Lai & Chau, 2010). Moreover, previous research has indicated a significant positive relationship between attitude and intentions to use technology (e.g., Davis et al., 1989; Karahanna et al., 1999; Chau & Hu, 2001; Cheng et al., 2006).

3.3.4.2.11 Cultural factors

The slow diffusion of IT in developing countries can be attributed to language, sociopolitical, poor infrastructure, economic and cultural differences (Abdul Gader, 1999; Torkzadeh & Doll, 1999). Straub et al. (2001) suggest that Arab cultural beliefs are very strong predictors of resistance to IS and thus of IT transfers. Straub et al. (1997) suggest that in cultures in which their individuals tend to avoid uncertainty (high

uncertainty avoidance) it is likely that electronic media will be used less often. Therefore, knowledge workers in high uncertainty-avoidance cultures should perceive computer-based media as less useful than those in low uncertainty-avoidance cultures. Moreover, they may also assume that TAM will be weaker in predicting technology use in cultures with high uncertainty avoidance than would it be in low uncertainty - avoidance cultures. Straub et al (1997) argue that in societies in which a large power distance separates subordinates and managers, the influence of computer-based media is not generally seen as a desirable feature.

Several studies have been conducted to investigate the influence of culture on consumers' or the influence of cultural elements (e.g., language, traditions, values, and religion.) on consumers' technology acceptance, while behaviour and results have shown significant influences. Because of the importance of the effect of cultural influence on consumers' technology acceptance behaviour for this research and the comprehensiveness of literature in this context, chapter 4 of this thesis is devoted to an in-depth discussion of the concept of religion and human values are two components of culture.

3.4 Summary

This chapter has reviewed the existing literature exploring relevant studies of self-service technology and Internet technology adoption. The aim of the chapter has been to understand the research issues related to self-service technology adoption in general and IB adoption in particular. The major findings drawn from the extant literature will inform and guide the research study in four ways. They will influence (1) the qualitative research study in chapters 6 and 7; (2) the research framework in chapter 8 (3) the analysis of evidence in chapter 9; and (4) the conclusions in chapter 10.

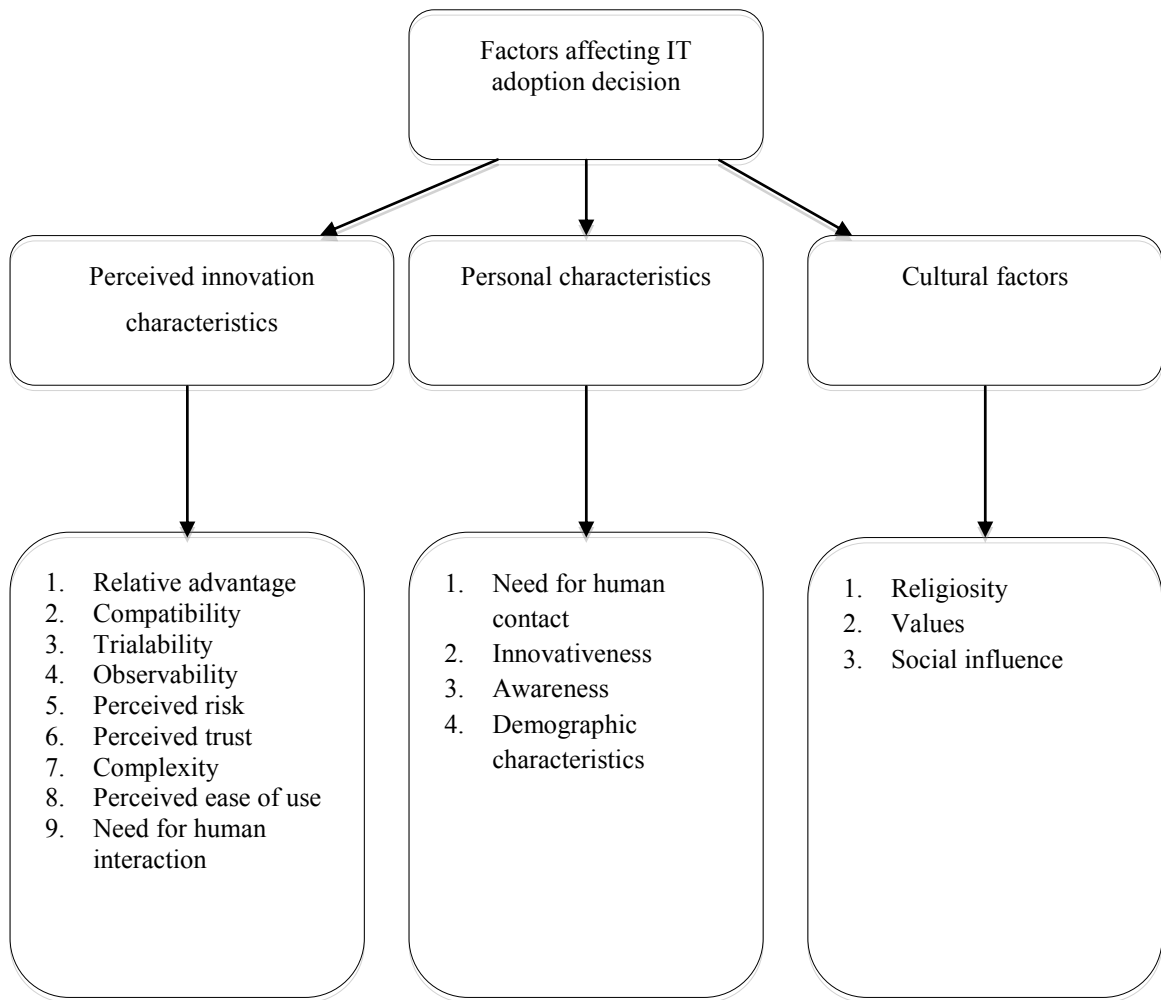


Figure: (3-1). Summary of the factors affecting IT adoption decisions

Most studies in the prior literature reviewed in this chapter suggest that the two commonly examined TAM factors (perceived usefulness and perceived ease of use) do not provide a full understanding of the consumers’ IB adoption behaviour. Therefore, in order to understand consumers’ IB adoption, it is broadly necessary to add other variables such as trust, perceived risk, personal innovativeness, innovation characteristics, social influence, awareness, the need for human interaction and previous experience. These factors have significant impact on consumers’ adoption behaviour in the context of IB. In addition, studies of IB adoption have either neglected or ignored certain cultural factors, such as human values, and religion. Figure (3-1) provides a

categorisation of some of the important factors that have an impact on consumers' SST adoption behaviour.

The above review of the previous literature on consumers' IB adoption behaviour indicates: 1) a lack of research on branchless or Internet-only bank adoption; and 2) methodological problems associated with studies examining Internet banking adoption. These two important points will be discussed below:

1) There is still a lack of research on branchless or Internet-only banks adoption.

Research into Internet adoption in the banking industry has often concentrated on adoptions of IB (Daniel, 1999; Sathye, 1999; Mols, 2000; Thornton & White, 2001) where the Internet is used as a delivery channel along with branch banking, ATMs and phone banking. Little research has been conducted into branchless banking, whereby bank branches are eliminated and banking services are delivered mainly through e-banking methods.

2) There are methodological problems associated with studies examining IB adoption. The criticisms of previous studies regarding methodology fall into two categories. These are omitted variables and research methods.

Omitted Variables. The aim of several researchers (e.g., Mols, 2000; Sathye, 1999; Ramsay & Smith, 1999) was to investigate the factors that influence consumers' adoption of IB. However, none of these studies examined how religious factors and human values could influence consumers' decision to accept and use IB. Also, the two variables of awareness and need for human interaction have received little attention in the literature.

Research Method. Most of the cited researchers, with some exceptions, used mail questionnaires. According to Sekaran (1992) mail questionnaires suffer from some disadvantages; specifically, the difficulty of clarifying doubts, a low return rate, and the

difficulty in developing a representative sample. Given these disadvantages and the lack of development in the mail system in most of the developing countries, this research will distribute the questionnaire personally. Moreover, there have been few attempts to integrate qualitative and quantitative studies in order to investigate consumers' acceptance of IB. Most of the cited studies used either the qualitative approach or the quantitative approach in investigating IB consumers' acceptance behaviour. In doing so, they have been losing the opportunity to triangulate their results and raise the validity of their findings.

Thus, a general overview of the previous studies reveals that most of the studies in IB have concentrated on innovation characteristics while some have concentrated on some of the aspects of consumers' personality that may influence their adoption decisions. Little attention has been given to religion and values. The studies in general followed a quantitative approach based on surveys. In addition, the tools employed in investigating consumer IB adoption were usually interviews, self-administered questionnaires and online surveys. Moreover, different models were employed in a variety of locations around the world; hence, the generalisability of these models across cultures has not been fully investigated so far in the literature reviewed.

The next chapter is devoted to exploring religion and values influences on consumers' behaviour in general, and on technology adoption behaviour in particular. Chapter 4 will concentrate on investigating the impact of religion and values on technology acceptance. It will investigate the role of religion and values as two of the cultural elements of IT acceptance.

Chapter four: Religion and values

4.1 Introduction

Chapter two discussed consumers' adoption behaviour models and chapter three discussed the studies in consumers' acceptance of self-services technologies acceptance in general and IB in particular. Chapter three also discussed some studies of SST and IB, the importance of IB and consumer satisfaction as well as the factors that influence consumers' IB adoption behaviour. As was stated in the previous chapter, the religion and values are discussed in depth in the current chapter.

This chapter reviews the literature on religion and human values influences in consumer behaviour. This chapter presents definitions of religion, religiosity and human values. The chapter discusses the influences of religion and human values on consumers' consumption behaviour. The chapter also discusses different measurements of religiosity and human values.

4.2 Religion and consumers' acceptance behaviour

This section of chapter four discusses the influence of religion in consumers' technology acceptance. As a first step to understand the influence of religion and religiosity in consumers' technology acceptance, the section presents some definitions of religion and religiosity. This is followed by discussion of the relationship between religion and culture. Then the discussion continues to present some studies of the influences of religion on the social sciences. This is followed by presenting some of the studies in religion within the field of marketing. And then the discussion covers some of the studies of the influences of religion and religiosity on consumers' behaviour. This section is also discusses the influence of religious affiliation and religiosity on consumers technology acceptance behaviour. The section also discusses the influence of Islam on Muslim consumers behaviour and the influence of religiosity on individuals attitudes to risk. The section is then presents some of the religiosity measurements.

4.2.1 Definitions of religion and religiosity

There is no consensus on a clear definition of religion, but through the literature review the researcher realised that there are at least three historical designations of the term identified by scholars: (1) a feeling present in the individual who conceives such a power; (2) the ritual acts carried out in respect of that power and (3) a supernatural power to which individuals must respond (Wulff, 1991).

The researcher realises that the current literature on religion reveals a broad spectrum of definitions. Religion has been defined by McDaniel and Burnett (1990: 110) as "*A socially shared set of beliefs, ideas and actions that relate to a reality that cannot be verified empirically yet is believed to affect the course of natural and human events*". Wilkes et al., (1986: 48) suggest that the religious construct "*must be defined for each research setting*". Thus for the purpose of this study, a definition of religion proposed by McDaniel and Burnett (1990: 110) was adopted, "*a belief in God accompanied by a commitment to follow principles believed to be set forth by God*". In this definition

McDaniel & Burnett look at religion from a marketing perspective. But what seems interesting is that some scholars concentrate on defining religion from a conceptual view while others, Arnould et al., (2004: 517–518) look at it from cultural view, “*A cultural subsystem that refers to a unified system of beliefs and practices relative to a sacred ultimate reality or deity*”. Also, Sheth and Mittal (2004: 65), refer to religion as a cultural factor which helps in describing the unknown in human life, “*A system of beliefs about the supernatural and spiritual world, about God, and about how humans, as God’s creatures, are supposed to behave on this earth*”. Looking at religion from a cultural perspective means considering it a cultural subsystem.

According to the literature, individuals differ in their commitment to the same religion and that there are differences between the concept of religious affiliation and the other concept referred to as religiosity. This study concentrates on studying the influence of both religion and religiosity on consumers’ acceptance of Internet-only banks. Therefore, it would be important to include some definitions of religiosity. In their research to investigate the effect of religiosity as a segmentation variable on consumer evaluation of the importance of various retail department store attributes, McDaniel and Burnett (1990) refer to religiosity not only as a belief in God but also the commitment to follow all principles that are believed to be set by God. They also stated that religiosity can be viewed through two perspectives: commitment and religious affiliation. Muhammad (2009) suggested religiosity is a complex concept that needs multidimensional measurement. Section (4.2.8) of this chapter discusses religiosity measurements.

4.2.2 Religion’s relationship with culture

Wiebe and Fleck (1980) explain that religion is one of the key cultural variables and that religious systems impact on culture by providing the underlying functions needed to enhance social ties. High-level religiosity can be indicative of moral standards, and of being part of a stronger sense of community. According to Belzen (1999), religion is one

of the important elements of culture that have an important influence on personal values, habits and attitudes. Lee et al. (2007: 13), identify religion as one of the elements that modify individual status in national cultures. Religion in its cultural context is created as a unified system of practices and beliefs that provides the values of a society, which in turn, forms a central part of the cognitive or ideological elements of a country's culture. Religion has frequently provided a value system around which groups in general have coalesced and with which their members have identified themselves (Geertz, 1993). Religion is seen as a subsystem of culture and as a value in itself, and is regarded as a way of life that encourages people to strive for better values (Schwartz & Huisman, 1995). Although theories differ with regards to the specific values that can be linked to religion, there is general agreement that religions exercise influence over their adherents' value systems through the socialisation process by promulgating religious creeds, norms, moral prescriptions, ritual requirements and taboos (Wulff, 1991; Crystal, 1993; Berkman et al., 1997).

Hill et al. (1998: 20) consider religion to be very important in individual life because it "*gives people the sense of order they have to their everyday social lives*". Although theories differ on the specific values they link to religion, almost all agree that religions exercise influence over their adherents' value systems through a socialisation process by promulgating creeds, norms, moral prescriptions, ritual requirements and taboos (Crystal 1993; Wulff 1997; Berkman et al., 1997). As sources of the most basic forms of moral teaching in society (Bowen, 1998), religions provide followers with a set of principles that influence their daily activities. They define the ideal of life, set up ethical and moral structures, provide rewards and punishments for certain kinds of behaviour, support power structures, justify social institutions and social roles and provide norms for social action.

4.2.3 Studies of the influences of religion on the social sciences

The study of religion appears to be in revival across a number of academic disciplines. For example, management scholars propose that religiosity shapes ethical decisions (Weibe & Fleck, 1980; Van Buren & Agle, 1998; Weaver & Agel, 2002; Rashid & Ibrahim, 2008). Quality of life researchers have identified a positive relationship between religiosity and psychological wellbeing (Levin & Chatters, 1998; Suhail & Chaudhry, 2004). Political scientists have found that religious beliefs have strong influence on voting behaviour in Western Europe (Knutsen, 2004) and medical researchers have focused on investigating the potential healing effects of prayers (Ellison & Levin, 1998; Woods et al., 1999). In computer and human behaviour studies, religiosity was found to influence students' attitudes to computers (Katz & Francis, 1995). According to Weibe & Fleck (1980), people who accept religion as the central focus of their life have more concern for responsibility, discipline and moral standards than those who are non-religious. The results show that there were correlations between the willingness to act in unethical ways and intrinsic religiousness, conservatism and religious fundamentalism (Kennedy & Lawton 1998). In their study of the role of religiosity in determining consumers' attitudes and beliefs Vitell et al. (2005) found that intrinsic religiousness explains attitudes to questionable consumer practices. In his study investigating the influence of religious education on students' perception of unethical business practices among Malaysian students, Muhammad (2009) found that the level of religiosity had a significant negative relationship with students' tolerance of unethical business practices.

4.2.4 Studies of the influences of religion on marketing

The topic of religion did not receive enough attention from early marketing scholars. In their review of national proceedings literature base, Lovelock and Weinberg (1978) identify only two marketing articles in religion. As shown in table (4-1), only 35 marketing articles related to religion were published in the period from 1956 to 1989 and 80 percent of these were published in the 1980s (Cutler, 1991). As table (4-1), indicates,

Cutler (1991) categorised the studies in marketing and religion into six categories, which are: 1) Attitudes toward the use of marketing, 2) Application of marketing techniques, 3) Religion's influence on marketing practices, 4) Religion and consumer behaviour, 5) Case studies of religion and marketing, and 6) Miscellaneous marketing articles on religion. Cutler and Winans (1999) also conducted an analysis in which they found 17 articles on marketing-religion issues in the 20-year period from 1976 to 1995. As table (4-2) shows, seven of these articles were about utilising or analysing marketing techniques; three articles were about the usefulness of marketing techniques and three were about the relationship of church and culture.

Table (4-1a). Studies published in marketing articles related to religion

Author (s)	Subject
Category 1: Attitudes to the use of marketing	
Dunlap, Gaynor and Rountree (1983)	Survey of the clergy's' use of marketing techniques
Gazda, Anderson and Sciglimpaglia (1981)	Survey of attitudes of the clergy toward use of marketing activities in religion
McDaniel (1986)	Survey of attitudes on use of marketing
Moncrief, Lamb and Hart (1986)	Survey of clergy to assess the knowledge and use of marketing concepts
Category 2: Application of marketing techniques	
Healey and Delozier (1978)	Proposes a model of a religious system within a marketing context
Dunlap and Rountree (1981)	Development of a marketing model for religious organisations
Dunlap and Rountree (1982)	Applying marketing to religious organisations
Anderson, Rountree and Dunlap (1984)	Survey of student attitudes toward religion and test of marketing model of religion
Anderson and Rountree (1985)	Marketing model used to predict attendance
Carman (1977)	Economic model optimises and expenditures
Category 3: Religion's influence on marketing practices	
Sethi (1980)	Discusses church/business conflict on social issues and distribution of wealth
Fugate (1982)	Discusses religious organisations' involvement in the business world
Saches (1985)	Discusses 1984 Catholic Bishops Letter and implications for marketing education
Lantos (1984)	Biblical philosophy and the marketing concept
Lantos (1986)	Religion as a basis for ethical decisions
Klein (1987)	Discusses marketing implications of the 1984 Catholic Bishop's Economic Letter

Table (4-1b). Studies published in marketing articles related to religion	
Author (s)	Subject
Category 4: Religion and consumer behaviour	
Engel (1976)	Empirical study contrasting psychographic profiles of denominations in Brazil
Hirschman (1983)	Religious affiliation influences consumer behaviour
Wilkes et al. (1986)	Discusses measurement of religiosity
LaBarbera (1987)	The Born Again Christianity movement and consumer behaviour
Delener and Schiffman (1988)	Empirical study of religion's effect on family decision making
Delener (1989)	Relationship between religious background and information search
Category 5: Case studies on religion and marketing	
Engel (1976)	Billy Graham's crusade activities in Asia
Sweeney and Anderson (1981)	Market segmentation within a local church
Young (1987)	Utilisation of marketing concepts
Category 6: Miscellaneous marketing articles on religion	
Culliton (1959)	Applying the 4's to religion
Burger (1970)	Application of marketing research to a religious organisation
Hempel and McEwen (1975)	Survey of church members, church leaders and newcomers to a community regarding attitudes toward religion
Kotler (1980)	Recommends marketing principles to churches
Cooper and McIlvain (1981)	Discusses suitability of religious organisations for marketing research
Miller and Niffenegger (1982)	Discussion of marketing techniques used by TV evangelists
Stutts and Gourley (1982)	Discussion of advertising practices of Christian churches
Young (1986)	Applying marketing research to religion
Walle (1988)	Christian Gospels as marketing communication
O'Guinn and Belk (1989)	Materialism and the consumption ethic within TV evangelism
Source: Cutler (1991).	

Table (4-2). Articles on marketing issues that appeared in the literature on religion in the 20-year period from 1976 to 1995

Author(s)	Subject
Subject area 1: Utilising or analysing marketing techniques	
McDaniel (1989)	Associates a church's growth or decline with the marketing techniques used by that church to determine which activities are associated with church growth
Wrenn and Kotler (1981)	Examines the marketing of parochial schools as an exchange process, discussing what both parties gain from the exchange of educational services
Pilgrim (1991/1992)	Describes the marketing strategies utilised by televangelist Lester Sumrall in fundraising
Kane (1993)	Examines challenges to Christian Bible Colleges based on their place in the product life cycle, which the author considers to be late maturity
Fewster (1980)	Considers how a seminary utilises marketing and recruitment techniques without appearing unholy
Ross (1984)	How public relations can affect the administration and effectiveness of pastoral counselling programmes
Lageman (1984)	Studied pastoral counselling centres, found four approaches to marketing pastoral counselling; most centres use all four
Subject area 2: The usefulness of marketing techniques	
Ogletree (1995/96)	Marketing has much to offer and can spread the good news. Market thinking can also foster self-indulgence and short-term advantages at the expense of long-term wellbeing
Wrenn (1993a)	There are major criticisms of marketing, but marketing practices can benefit the church when fully understood and properly used. Religion cannot be marketed, but religious institutions can
Traber (1987)	Mass media for marketing the church may not be as effective as many leaders think
Subject area 3: Impact of marketing on religion	
Kenneson (1993)	Questions if the act of marketing the church makes it less religious and less committed to God
Wrenn (1993a)	Church needs to be theology-centred; marketing could cause the church to centre on non-religious people, thus losing its effectiveness. Adapting faith to consumer needs poses a great danger
Long (1995)	A world market could mean a very small place for God. Theology must be the centre of religion, not even a world market
Iannaccone (1992)	Examines consumers' rational choice behaviour in terms of religious commitment, finding that commitment increases with open markets in religion
Subject area 4: Relation of church and culture	
Mauss (1996)	Examines the church in a cost benefit analysis. The cost of joining a new religion may be too high or too low. If it is too low, potential members may assume that the product is of little value
Samuel and Sugden (1983)	Examines the relationship between the host country church and the international mission agency. Sees international agencies as being similar to multinational corporations. The internationals have greater resources and dominate the relationship
Luidens et al. (1994)	Studied 500 baby boomers confirmed in Presbyterian Churches, finding they have great tolerance for differing opinions and beliefs
Source: Culter and Winans (1999).	

A careful examination of these materials suggests that research into religious marketing has two major approaches according to their focus and perspective. The first approach, which was adopted by the vast majority of the studies in the area, considers religion as a commodity that can be marketed. Religious institutions such as churches are seen as independent entities that operate in open markets, and compete among themselves and with other cultural institutions to attract potential customers, while the decision-making process involved in joining a religious group or choosing the church is seen as a consumer choice. In this context, interactions between social producers (i.e. religious organisations) and consumers of the official religions (i.e. the general public) are seen as marketing issues.

The second approach, which is the main focus of this study, analyses the effects of religion on consumer behaviour. In this approach, religion is conceived as a consumer subculture. Members of the subculture are identified as members of the general culture, but who also have some properties that can be classified in a distinct category. Thus, religious groups may represent largely distinct patterns of consumption.

4.2.5 Studies of the influences of religion/ religiosity on consumers' behaviour

Religion can influence individual behaviour in a direct way through its rules and taboos (Harre, 1986) or indirectly through classification of all phenomena, its development of codes of conduct and establishment of priorities among these codes (Sood & Nasu, 1995). According to Lindridge (2005) there have not been enough studies of the influence of religion in consumer's behaviour. There are two reasons for this. Firstly, religious influence is ambiguous. Secondly, perhaps religion is too sensitive a subject for investigation.

Researchers in the field of consumer behaviour have recognised the influence of religion. Wilkes et al. (1986) strongly suggest a possible association between religion and specific aspects of consumer behaviour. Hirschman (1981) argues that religious

affiliation plays a significant role in attitude formation. Hirschman (1982) and Minkler and Cosgel (2004) believe that consumers with the same religious beliefs choose items that will not only strengthen their beliefs but also help them express the intensity of their commitments to those beliefs. Moreover, religion has an impact on value choice (Keng & Yang, 1993). Some researchers have paid attention to the effect of religious principles on consumers' decision making in general (Rossauw, 1994; Gould, 1995; Rice, 1999; Lindridge, 2005). Delener (1996) suggest that the enhancing of knowledge of the effect of religious differences in consumers decision making “*should have significant impact on the effectiveness of global marketing strategies*”.

The influence of religion in consumer behaviour has been studied by various different researchers (Hirschman, 1981; Delener, 1994, 1996; Sood & Nasu, 1995; Al-Olayan & Karande, 2000; Rice & Al-Mossawi, 2002; Fam et al., 2004; Lindridge, 2005). Sood and Nasu (1995) tried to identify the extent of this influence by attempting to identify the level of religious commitment involved in consumers' buying decisions. They studied two different religions (Protestant and Shinto) in two countries (America and Japan) and found significant differences in consumer behaviour between these two religions and among consumers from the same religion in relation to their religious commitment.

With regard to the study of the effect of religion on consumer attitudes to advertising, both Al-Olayan and Karande (2000) and Rice and Al-Mossawi (2002) studied advertising in Arab and Muslim countries and found differences in advertisement designs aimed at Arabic Muslim countries compared to non-Muslim countries. However, both of these studies were limited to the use of content analysis in advertisements, without studying consumers' attitudes toward the advertisements. Also, both studies studied only one religion. On other hand, Fam et al. (2004) conducted a more comprehensive study to investigate the effect of religion on attitudes to the advertising of controversial products. In addition, Vitell et al. (2005) distinguished between the influences of two types of religiousness. He found that intrinsic

religiousness was an important determinant of consumer ethical beliefs, but that extrinsic religiousness was not. Furthermore, Williamson (2007: 58) mentioned that reliance on religious beliefs is not declining, and that religion is still considered as the primary contributor in the framing of social norms.

In his study Mokhlis (2006) points out that religion as an inherent human value has received little attention from consumer researchers. This is partly a result of the presumption of a small number of authors who argue that religion has little direct influence on the process of consumption and that religion thus has no place in the theories of consumer behaviour. The influence of religion on the consumption of goods and services that are not directly restricted by religious laws is not clear. Thus, religious values may influence individual emotional experience, cognition, and psychological effects, which in turn can affect the consumption choices made by consumers (Mokhlis, 2006).

Because of the lack of literature on religion and consumer behaviour, the research was only able to identify a small number of studies on the topic. These studies can be classified into two broad groups, namely studies of culture and consumption of certain religious settings, and studies of the impact of religiosity on specific consumption-related forms of behaviour.

The following subsection discusses the religious affiliation influences on consumers' behaviours, religiosity influences on consumers' behaviour, religion influences on consumers' technology acceptance.

4.2.5.1 The influences of religious affiliation on consumer behaviour

In this approach, religion is considered a socioeconomic segmentation variable like gender and race. Studies which follow this approach have viewed religion from the following two perspectives: (1) religiosity or (2) religious affiliation. Religiosity has been measured both cognitively (e.g., the degree to which an individual holds religious

beliefs) and behaviourally (e.g., frequency of church attendance). Religious affiliation was typically measured relative to the denominational membership or religious identification of the individuals (Mokhlis, 2006).

It has been proposed that one is born to religious traditions, and that religiosity is developed through the work of the institutional implications (e.g., mosque prayer, Sunday school, and church attendance). According to Sheth and Mittal (2004), religious affiliation influences consumer behaviour principally by affecting personality structure. This can have an effect on consumers' marketplace behaviour.

In reviewing the contemporary literature on consumer behaviour and international marketing texts, it could be suggested that the role of religion in consumer behaviour could be classified into two categories: First, the functions of religion as a transmitter at the macro level of values. From this perspective, religion helps in the socialisation process that mediates the influence of other institutions, and encourages consumers to adopt certain values and principles. Second, religious affiliations (for example Islam, Judaism and Hinduism) may affect different aspects of the behaviour selection of its members, in accordance with the rules and taboos involved (Mokhlis, 2006).

However, there is little empirical evidence to show the potential and valuable role of religious affiliation as an indicator of consumer behaviour. One of the earliest marketing studies that investigated the influence of religious affiliation on consumer behaviour was Engel's (1976) study, which referred to the clear differences in psychographic profiles between the members of the Assembly of God Communities and the Lutheran Church in Brazil. Engel found that the Christianity had a considerable influence on the lifestyle of the members of the Assembly of God while the members of the Lutheran Church were the more secular and showed relatively little interest in spiritual growth. In the early 1980s, Hirschman conducted work on the basis of religious affiliation, and consumer behaviour. These studies focused primarily on the similarity

and differences in consumption-related activities among consumers affiliated to Catholic, Protestant and Jewish religions. In the earliest work, Hirschman (1981) examined the differences between Jews and non-Jews in information seeking and processing. Hirschman suggested that someone from the Jewish race would have a stronger effect on the behaviour of fellow Jews, compared with the effect of non-Jews. It was found that the Jewish subculture, as measured on a composite index of self-perceived and religious strength of cultural affiliation, differs significantly from the non-Jewish subculture. In a subsequent study, Hirschman (1982a) showed clear differences between Catholic, Protestant and Jewish consumers in terms of self-perception, as regards underlying novelty seeking and the transfer of information. The study indicated that Jews refer to a high level of novelty seeking compared to Protestants and Catholics, and that a higher level of information transfer between Jew and Catholics occurs compared to Protestant consumers. Therefore, she concluded that an ethnic group formed on the basis of religious affiliation may serve as a predictable and useful determinant of consumption patterns.

In parallel with Hirschman's analysis, a number of scientific studies by other researchers have probed the importance of religious affiliation in explaining differences in consumer behaviour. In his research, Delener (1987) adopted the Rokeach dimension of values to explore the differences in the structure of the values of the Catholic and Jewish consumers. His study indicated that there were significant differences between the two religious groups in terms of instrumental and terminal values.

Bailey and Sood's (1993) study examined the implications of religious affiliation on the consumer behaviour of six religious groups in Washington, DC: Buddhist, Hindu, Islam, Jewish, Catholic and Protestant. They found that Hindus were rational shoppers; Muslim consumers were relatively more impetuous shoppers and were less likely to be aware of risks. Buddhists were the only religious minority members in the sample of the report whose consumer behaviour operated along the lines of societal norms and Catholics were the least likely to be risky shoppers. Moreover, consumers'

demographics were found to moderate the influence on minority group shopping behaviour. Bailey and Sood (1993) were also keen to test whether religious minorities groups (Buddhist, Hindu and Muslims) maintain their religious beliefs and practices or modify their behaviour to reflect the culture that they were now living in. They found that not everyone belonging to a particular religion accepts all the beliefs and practices of that religion. In particular, many followers of Buddhism did not hold with all of the beliefs of their religion, suggesting that they had changed their respective religious beliefs and practices. However, Muslims and Hindus have generally maintained their religious beliefs and practices and therefore have different consumption behaviour from the majority religious groups in the U.S.

Siala et al., (2004) studied the role of the subculture variables as antecedents to trust, with the main focus being on religious affiliation in the context of e-commerce. The students who participated in the study were Christians, Muslims, and followers of other religions. The study indicated that confidence in electronic commerce sites on the Internet varied according to religious affiliation. It was found that Islamic groups expressed more confidence in the Muslim site compared to a Christian site. They also expressed more positive attitudes toward Muslim book websites than other sites. These facts suggest that those in the Muslim group may be more likely to buy from the Muslim websites than from other locations.

Fam et al. (2004) conducted an extensive study that analysed the influence of religion and the intensity of religious belief on attitudes to the advertisements of four types of controversial products. These include the gender/sex related products (such as underwear for females and males), and products of social/political activity (such as guns and funeral services), health care products (such as weight-loss programmes) and addictive products (such as cigarettes and alcohol). Samples of students from four main religious groups, namely, Buddhism, Islam, Christianity and believers in other religions (mainly Taoism and Confucianism) were drawn from across six countries. The researchers found that the followers of these four religions communities had different

attitudes toward the four controversial product groups. The study showed that the followers of the Islamic religion were most likely to find the advertisements of each of four product groups offensive. The study pointed out that the religiously devout followers were more likely to find declarations on gender/sex related products, and health care products and addictive products more offensive than less devout followers.

In addition, evidence suggests that the influence of religious affiliation on consumer behaviour is not limited to consumer decision making for the purchase of durable goods but also on the selection and evaluation of service providers. In their study of hospitals, Nix and Gibson (1989) found that the religious affiliation of a hospital is important in affecting patients' choice of hospital and that religious affiliation contributes to the general satisfaction of the patient. This conclusion was later supported by Millstein et al. (1993) who found that hospitals' religious affiliations were more likely to be recalled by people of the same religious affiliation. He also found that religion affected assessments of the quality of hospital care, such as perceptions of the efficiency of doctors, of assistance and personnel management, and of the friendliness of the nursing staff as well as the overall quality of services.

4.2.5.2 The influence of religiosity on consumers' behaviour

It has been said that religion is very personal in nature. Therefore, there is an effect on consumer behaviour based on individual level of religiosity or which focuses on the importance of religion in their lives. Religiosity is defined in Worthington et al. (2003 : 85) as, *“the degree to which a person adheres to his or her religious values, beliefs and practices and uses them in daily living. The supposition is that a highly religious person will evaluate the world through religious schemas and thus will integrate his or her religion into much of his or her life”*. This definition is accordance with Johnson et al. (2001: 25) who refer to religiosity as *“the extent to which an individual is committed to the religion he or she professes and its teachings, such as how the individual's attitudes and behaviours reflect this commitment”*. Highly religious individuals usually show a

strong sense of commitment to their belief systems, and are therefore expected to act in accordance with the rules described by their religion. As noted by Stark and Glock (1968: 1) “*the heart of religion is commitment*”.

There is evidence that the term religiosity can extend beyond religion itself, as highly religious people show religious commitment in many aspects of their lives, including family, relationships and consumer behaviour. There have been several investigations into the relationship between religiosity and consumer behaviour. In an empirical study of religiosity and consumer behaviour among the 602 mostly Protestant consumers, Wilkes et al. (1986) reached the conclusion that religiosity influences several aspects of the consumer lifestyle that could eventually affect the options and/or behaviour. When they controlled for age, income and gender, they found that people with a high degree of religiosity tended to be satisfied with their lives, to have more traditional sex-role orientation and to be opinion leaders. Although the results were not statistically significant, the additional results of this study provided an indication that consumers with higher religiosity were more likely to prefer trademarks of national products and less likely to use credit.

The impact of religion on consumer behaviour can vary from one culture or one country to another. Sood and Nasu (1995) conducted a comparison between the cultural effects of religion on the general purchasing behaviour of a sample of Japanese and American consumers. The study results indicate that there is no difference in the shopping behaviour of devout and casually religious Japanese individuals. This can be attributed to the fact that religion is not such an important element in Japanese culture in general. On the other hand, in the United States, devout Protestants were found to be more economically focused, often purchasing products offered for sale, and shopping in stores with lower prices. They were open to buying foreign-made goods, believed that there was a significant link between price and quality, and tended to not believe the products’ declared claims while preferring accurate and informative advertisements.

There is also some evidence of the effects of religiosity on consumer attitudes to advertising messages. Michell and Al-Mossawi (1995) conducted an experimental study to test the mediating effect of religiosity on advertising effectiveness among British Christians and Muslims. They found that religious Muslims have significantly lower recall and more negative attitudes toward messages in controversial advertisements. However, their recall and attitude scores for non-contentious advertisement messages are similar to those subjects with lower levels of religiosity. These findings imply that there are differences between devout and liberal Muslims in perceiving controversial elements in television commercials.

4.2.5.3 The influence of religion on consumers technology acceptance

The studies of technology and religion can be looked at from two perspectives. First, they focus on technology's role in religion and religious teaching, such as religious websites and virtual churches. Second, there has been an interest in investigating the influence of the religion and the religiosity of consumers related to their technology acceptance decisions. In this study, the focus will be on investigating the impact of religion on consumers' levels of technology acceptance.

Research shows some indications of the influence of religion on technology acceptance, either directly or indirectly through its influence on attitude, perceived usefulness, perceived risk, and personal innovativeness. According to Kale (2004) religion and spirituality have always exerted a strong influence on technology diffusion, in either negative or positively ways, to explain the transcendence motive in technological innovation. In addition, Bauwens (1999) suggested that spiritual development is important for technological development and that they are not opposite to each other. On the other hand, in survey data including a nationwide sample of Americans, Armfield & Holbert (2003) investigated the relationship between religiosity and Internet use. They argue that there is a negative relationship between individuals' degree of religiosity and their adoption of the Internet.

The marketing of high-tech products could be linked to fatalist belief concepts. Individuals who are highly fatalistic are likely to avoid high-tech products and avoid certain situations that they do not understand. Tansuhaj et al. (1991) argue that later adopters are more fatalistic than early adopters. It is also proposed that fatality can influence the perception of risk and how to handle it, which in turn can influence the willingness to adopt new products. Hill et al. (1998) used focus groups, semi-structured interviews and a survey to investigate the effect of culture on information technology transformation in Arab countries. In all the stages of their study, the respondents referred to religion as one of the important factors that influence the transformation of IT in Arab countries. Many have argued that the Internet has introduced threats to religious faith. These threats include the Internet bringing global values which may contradict religious teachings (Kluver & Cheong, 2007). Therefore, highly religious people showed some resistance to the Internet in its earliest manifestations (Al Salem, 2005).

In their study exploring the adoption of high technology products by Vietnamese and Polish migrants in Australia, Slowikowski and Jarratt (1997) included cultural factors such as religious traditions and fatalism to understand the impact on immigration on the purchasing processes for dishwashers, mobile phones, home computers, video players and video cameras. The results indicated that religion has an important role in the adoption process of high technology products. Although this important study sheds light on the role of religiosity in adoption processes it was limited to immigrants from one country living in only one major city in that country, and the study also had a small sample size which made it hard to generalise its results. Moreover, this study concentrated on participants' religious affiliation without considering participants' religiosity. The research study into Vietnamese and Polish immigrants' adoption process did not compare their adoption behaviour with that in their mother countries. The results showed that culture has an impact on participants' adoption behaviour. The significance of the impact differed from one cultural area to the other. For example, the influence of

religious affiliation was not as important in the adoption process as traditional ties or belief in fatalism.

In their study examining the relationship between the dimensions of religiosity, personality and attitudes to Computer Assisted Instruction (CAI), Katz and Francis (1995) investigated a sample of 190 trainee teachers in Israel who had experienced a professionally structured induction programme in computer teaching skills. The findings of their study confirmed the power of both personality and religiosity in predicting positive student attitudes to CAI.

In addition, Tansuhaj et al. (1991) investigated consumers' resistance to innovations. In their study they tried to find out if consumers in countries that differ widely in cultural values and economic development also differed in their resistance to innovations. They studied consumers in five different countries (Senegal, United States, India, South Korea, and Thailand). The choice of these five countries was based mainly on the dominating religion of each country. In these countries they study the cultural values of fatalism, traditionalism, and religiosity. They found that these three factors explained cross-cultural variation in innovation resistance in Senegal and in the United States, but not in India, South Korea, or Thailand. Although this study is one of the interesting studies that indicate the influence of religious commitment on consumers' innovativeness, it still suffers from the following measurement limitations. First, the innovation resistance was measured using a traditional scale of "*willingness to try*", which is a weak dependent variable that did not measure the resistance to innovation in full. Second, the researchers did not test the cross-national reliability and validity of their study scales. Also the sample of the study relied on students from relatively large cities which therefore affected the generalizability of results across the population of each country. Another limitation of the study was that religion and nationality were combined, as the samples in each country were predominantly from one religion (although that religion differed in all five countries).

One of the few studies that have examined the influence of religious faith on trusting beliefs in the context of TAM and online behaviour was conducted by Barnes (2009). The study included participants from different religions: Christianity (Protestant, Pentecostal and Catholic), Buddhism, Hinduism and Judaism. There were no Muslim participants in the Barnes sample. The sample size was quite small, with 161 participants. The results suggest that religious faith increases benevolence, which in turn influences perceived ease of use, perceived usefulness and behavioural intention.

Although there has been limited number of studies that have investigated the influence of religion and religiosity on technology acceptance, these studies do show the importance of religion and religiosity in determining consumers' technology acceptance decisions.

4.2.6 The influence of Islam on Muslim consumers' behaviour

This section of the study concentrates on explaining the Islamic religion influence on Muslim consumers' behaviour. The first subsection presents a brief overview of the principles of Islamic religion. This is followed by discussion of the influence of Islam on Muslim consumption behaviour in the second subsection. The discussion in third subsection is in the influence of Islam on Muslim preferences for banking systems. Then the fourth subsection is dedicated discusses the e-commerce acceptance from Islamic perspective.

4.2.6.1 Islamic religion principles

Since the research at hand is interested in investigating Muslim consumer's technology acceptance behaviour, it may be useful to give a brief overview of Islamic religion.

In defining Islamic religious identity it would be appropriate to start by illustrating the Islamic religion. Abdullah and Siddique (1986) state that the Muslims' Holy Qur'an provides a stable and flawless set of values for guiding behaviour. Islam is based on the Holy Qur'an and the Prophet Muhammad's teaching. When we look at the

meaning of Islam *al-islām*, we find it means peace. Von der Mehden (1986) states that the word Islam literally means, “*total surrender*”. They also refer to the same word as meaning, “*to surrender to the will or law of God (Allah). In Islam the one who practices Islam religion is referred to as Muslim and according to the holy Quran, Islam is a universal and ‘primordial’ religion*” (Von der Mehden, 1986). Islam has grown to become the second largest religion in the world. There are between 1 billion and 1.8 billion Muslims (Owen, 2008). And according to Al-Olayan and Karande (2000), Muslims countries import a total of over \$150 billion of products.

“Islamic social philosophy is based on the belief that the various spheres of life; spiritual, social, political, and economic form an indivisible unity that must be thoroughly imbued with Islamic values. This principle informs such concepts as ‘Islamic law’ and the ‘Islamic state’ and accounts for Islam’s strong emphasis on social life and social duties. Even the cardinal religious duties prescribed in the five pillars of Islam have clear social implications” (Fam et al., 2006:541). Kavooosi (2000) and Lawrence (1998) mention that Muslim people consider Islam as a complete way of life. Therefore, they do not distinguish between the secular and the religious. According to Chapra (1992) the Islamic worldview is based on concepts of human wellbeing and good living. In addition, this requires a balanced satisfaction of both the spiritual and material needs of all humans.

Islamic principles sources include the Holy Qur’an, Sunna; which refers to the deeds, habitual practice and behaviour of Prophet Muhammad; Hadith, which is a narrative of the sayings and deeds of the Prophet Muhammad; Ijma, which is the consensus among religious scholars about specific issues not mentioned in either the Holy Qur’an or Sunna; Qiyas, which is the use of deduction by analogy to provide an opinion on a case not referred to in the Holy Qur’an or the Sunna in comparison with another case referred to in the Holy Qur’an and Sunna; and “*Ijtihad represents a jurist’s independent reasoning relating to the applicability of certain Sha’ria rules on cases not mentioned in either the Quran or the Sunna*” (Gait, 2008). What distinguishes Muslims from followers of some other faiths is that the impact of Islamic religion is very clear in

every aspect of its followers' life (Rice & Al-Mossawi, 2002). In addition, Muslim social life is explained and managed by the direction of Islam principles that are clearly stated in the Holy Qur'an, the Sunna and other sources of Islamic law.

4.2.6.2 The influence of Islam on Muslim consumption behaviour

Different researchers consider the differences between individuals from different religious affiliations (Hirschman, 1981; Wilkes et al., 1986; Danel, 1990; Rossauw, 1994; Gould, 1995; Rice, 1999; Lindrige, 2005). People of different religious affiliations tend to judge various behaviours differently. Rice and Al-Mossawi (2002) stress that it is important for multinational companies to develop a learning orientation toward foreign markets. For Muslim companies who plan to go for global markets it is important not just to understand consumers from different religions around the world, but also it is necessary for them to develop more understanding of the changes in the values of Muslim communities when they live in other parts of the world.

The consumption behaviour of Muslim consumers may differ according to the degree of their religiosity and where they live. For instance, according to Karijn Bonne et al. (2007) Muslims who live in non-Muslim countries are willing to spend more time and effort to obtain '*Halal*' meat. Karijn Bonne et al. (2007) reach the same conclusion in their study of the role of self-identity regarding '*Halal*' meat consumption in the Muslim community in France. Muslims who see themselves as less religious believe that consumption decisions about '*Halal*' meat are a matter of personal conviction, but those who are more religious are more prone to consider the opinion of religious scholars in the matter (Karijn Bonne et al., 2007). Therefore, religious affiliation is not enough to shape attitudes to different products and services but the degree of the religiousness of the person influences his/her behaviour. Also it influences the value given to the opinion of other members or scholars who share the same religion.

The MERAC study (1987) stated that Muslims in Arabic Gulf States usually refer to the Holy Qur'an and Sunna when they explain the importance of manners and good behaviour. Young Muslims' acceptance of Western symbols did not mean they also accepted Western values (Rice & Al-Mossawi, 2002). Furthermore, Gentry et al., (1995) state that non-religious Muslims are often proud of their Islamic identity and are attracted by Islamically oriented appeals. The authors state that collectivists can handle more conflict between behaviour and attitude than individualists. Islam is one of the most conservative religions in that it encourages its followers to adhere strictly to an ideal way of life. However, Asad (1993) believes that things have changed in Muslim world and that Muslims are less idealistic about Islamic teaching these days. He also mentioned that there is evidence of creeping secularisation, partly brought about by the consequences of international trade. In contrast to Asad (1993)'s suggestion, Soares et al. (2007) believe that, even though Muslim countries may have adopted some secular ideas, the vast majority of Muslim people do not agree with their governments in these matters. A Muslim country is not going to become a major market for pork, regardless of its government's policies with regard to importing it (Soares et al., 2007).

From the discussion above it could be inferred that Islam, like other religions, has an impacts on its followers' consumption behaviours. However, this impact varies from one individual to another according to the individual's level of religiosity and to the level of social pressure imposed on the individual.

4.2.6.3 The influence of Islam on Muslim preferences for banking systems

Islamic banking solutions were introduced onto the market more than 30 years ago and Sha'ria compliant products and services have been introduced to the market in direct competition in recent years (Gait, 2008). Sha'ria compliant products and services been introduced worldwide, but the penetration of such products and services still lags behind their conventional counterparts in most countries, even in Muslim countries. Erol & El-Bouadr (1989) argue that most consumers choose Islamic financial services due to

religious preferences rather than more rational selection criteria, such as cost, benefits, and convenience access to the financial services. Gait (2008) identifies a lack of empirical analysis of individual consumers' attitudes, perceptions and knowledge of Islamic finance. Attitudes to Islamic banking and financial services are not clear among Muslims in some Islamic countries, not to mention those in non-Muslim countries.

One of the early studies in consumer banking decisions in Saudi Arabia was conducted by Yavas (1988: 46), according to him religious values play an important role in Saudi consumers banking decisions, "*It appears that more deeply embedded values such as religious views, fear of God, rather than concern with respect to safety, financial losses or approved by peers, are the primary reasons behind the decision not to open an account*". This reflects on the awareness or the degree of religiosity that influences Muslim adoption of Islamic banking, although many of those living in Muslim countries prefer to use conventional banking services instead of Islamic banking services. In Saudi Arabia Islamic law is the official law of the country, and the population is around 28 million, almost all of them are Muslims (The World Fact Book, 2011). There are 14 commercial banks, at least eight of which are conventional banks, running business either as a foreign joint venture or a solely Saudi investment. Whatever the kind of investment, those conventional banks have been successful in the Saudi market.

Metwally (1996) studied the attitudes of Muslims in Arabic countries (Egypt, Saudi Arabia and Kuwait) to Islamic banking and found that Islamic banks did not significantly differ from conventional banks. In terms of the benefits and costs of their services and products, Islamic banks were equivalent to conventional banks in terms of speed of services and staff competency, but consumers preferred them. Omer (1992) concluded that the only reason for Muslims to choose Islamic banking institution was religion. Metawa and Al-Mossawi (1998) found that the most important factor in determining the attitudes of Muslims to Islamic banks was religion rather than profitability. Gait (2008) suggested that Muslims' choice of Islamic financial services was mainly based in religious motivation. Naser et al., (1999) further concluded that

religious beliefs and bank reputation were the two key factors in motivating the use of Islamic banking services. In Kuwait, Al-Sultan (1999) studied the attitudes of several hundred customers to services and products provided by Kuwait financial houses, and he found that adherence to Islam was the primary motivating factor for Kuwaitis to deal with an Islamic bank. Okumus (2005) studied Muslims in Turkey and the most important finding was that majority of Islamic bank customers reported that religion was the important motivation in the use of Islamic banking services.

M.S. Hamayel divided Saudis into three categories in terms of their dealing with money (Khusro, 1981. Cited by Yavas, 1988: 46),

... Those with cash who, afraid of being robbed, stick it in the bank; those who invest their money in stocks, although banks may be safer; and those who don't believe in banking because of religion.

Thus, prior literature on Muslims' banking behaviour has revealed that religion and religiosity are the important factors that determine their choice of banking services providers. Therefore, it is important to investigate the influence of such factors on Muslim consumer technology-based banking.

4.2.6.4 E-commerce acceptance from an Islamic perspective

Many Muslims wonder if e-commerce is allowed according to Islamic law. Islamic religion is broken to four legalistic sections; one of the sections is which is called 'Fiqh al-mu'amalat' (*'Islamic business transactions'*) (Zainul et al., 2004: 282). This section is responsible of organising Muslim business affairs and it is the one related to an e-commerce-Islamic discussion. From an Islamic point of view Zainul et al., (2004: 282) stress that there are serious legal drawbacks that are likely to arise in the field of e-commerce. These include short selling, absence of hand to hand delivery, and uncertainty (gharar). According to Islamic law, products and services that are involved in the transactions between the various parties should be permissible by Islamic law

(Shari'ah) and they should not be harmful for the contracting parties or the general public (Zainul et al., 2004).

One of the forbidden types of sale in Islam is 'gharar' which has been translated by El-Gamal (2002: 1) as "*trading in risk*". On the other hand, Gjelsvik (2001), refers to 'Garar' sales as involving hazards and uncertainty. 'Gharar' sales are forbidden in Islamic trading law because of the harm they contains and because they may influence a buyer in setting up a contract (El-Gamal, 2002). El-Gamal (2002: 10) mentioned that gharar can be the cause of different types of risk and uncertainty such as,

- 1) Ambiguity in the contract language that leads to uncertainty related to the nature of the object of sale or price.
- 2) The object of sale may be known but its delivery may be doubtful.
- 3) The object of sale may itself contain risk and uncertainty.

According to El-Gamal (2002), a sale is valid and allowed in Islam if it is not dominated by risk. In the other hand, Gambling is totally prohibited in Islam, as stated in the Holy Qur'an,

O you who believe! Intoxicants and games of chance and (sacrificing to) stones set up and (dividing by) arrows are only uncleanness, the Shaitan's work; shun it therefore that you may be successful. The Shaitan only desires to cause enmity and hatred to spring in your midst by means of intoxicants and games of chance, and to keep you off from the remembrance of Allah and from prayer. Will you then desist? [Holy Qur'an 5:90-91]

Thus, highly religious people usually hesitate to be involved in transactions that may contain extreme risk, and which therefore resemble gambling. But when we look at gambling, we may find that the person involved in gambling is accepting high risk with the hope of gaining high benefits by winning. That is not the case in involvement in Internet-only banking. Some well-educated Muslims understand the difference between gambling (trading or even becoming involved in very high risk trade or transactions) and acceptance of new technology, which may involve some risk. However, this is not

always the case for uneducated Muslims, who just understand that they should keep away from risk of any kind. They usually refer to the Holy Qur'an,

And spend in the way of Allah and cast not yourselves to perdition with your own hands, and do well (to others); surely Allah loves the doers of good. [Holy Qur'an 2:195].

To justify their avoidance to any situation or trial of any new product that may contain any sort of risk. They use the phrase, "*and cast not yourselves to perdition with your own hands*".

The use of credit is prohibited in Islam because it involves interest (Riba). Some Muslim consumers hesitate to use such methods to pay for their transactions in e-commerce (Zainul et al., 2004). Therefore, some propose the Islamic solution 'Murabahah' as a method to help Muslim consumers do their buying online without using credit cards, which are prohibited by Islam. Islamic debit cards do not include facilities for overdrafts and do not have any interest rates. And even though most Islamic banks provide 'PayPal' cards as a means of payment on the Internet, such a card will not allow Islamic bank customers to go into debt. These cards only help in facilitating Internet shopping. So Muslims consumers are in need of Islamic solutions for these situations.

From the discussion above, it is clear that religion has an influence on consumer's intentions to adopt e-commerce in general, through its role in setting the boundaries of what is prohibited and what is allowed for Muslims in business transactions. Therefore, is important for marketing people to be aware of these boundaries when they design their marketing mix for e-business within different religious affiliations. Moreover, it is important to achieve more understanding of the acceptable format of e-business contracts in Islamic religion.

It is the duty of Muslims to implement Islamic law in all aspects of life, including trade relations. Islam has provided its followers with the general guidelines that should not be ignored or compromised. Islamic religion is interesting as it provides obvious guidance on commerce behaviour (Luqmani et al., 1987). Metwally (1997) contends that in Islam it is expected that the principle of cooperation between a seller and a buyer should be practised at both individual and corporate levels of commerce. The emerging electronic market has led to many legal issues regarding ‘electronic contracts’ on the Internet.

Zainul et al. (2004: 288), point out that certain conditions must be met for an e-commerce transaction to conform to Islamic law. First, there needs to be clarity of communication. The nature of both products or services should be clearly displayed and detailed specifications regarding prices, the delivery and modes of payment should be clearly stated. For any contract to be valid in Islam law it should free from uncertainty (gharar), avoid deceit or fraud or, duress and any element of gambling (Zainul et al., 2004: 285).

Islamic law (Shari’ah law) is different from any other standard text based on the legal system as understood in the West. Calder and Hooker (1974: 321) define the concept of *Shari’ah* as a form that “*designates the rules and regulations governing the lives of Muslims*”. Because of its vast scope, Islamic law cannot be rendered in English as one word. ‘Religion’ maybe the closest word, although *Shari’ah* implies a stress on the prescriptive side of religion.

Alzaagy (2007: 29) presented the following basic elements for a contract to be legal under Islamic law: a) the approval and the intention to contract, (b) the ability of the contracting parties, c) an object of sale, d) consideration, and e) an agreement between the contracting parties. Moreover, other basic conditions need to be considered. Offers and acceptance must be made clear in the statement of the absolute will of the contracting parties to enter into business relationships. Individuals must be fully

compliant in all elements of acceptance. Notice of both the offer and the acceptance should be sent to all parties involved in the contract and this should be linked to this offer and acceptance by the parties of the meeting place of the transaction. ‘Unity of place of the meeting’ means that the offer and acceptance must be conducted at the same time in which the two parties face each other, avoiding distraction.

The rules of Islamic law require that the offer and acceptance must be communicated in the same place where both parties gather for the formation of their agreement (Alzaagy, 2007).

When two persons enter into a transaction, each of them has the right to annul it so long as they are not separated and are together (at the place of transaction); or if one gives the other the right to annul the transaction. Nevertheless, if one gives the other the option, the transaction is made on this condition (i.e. one has the right to annul the transaction), it becomes binding. And if they are separated after they have made the bargain and none of them annulled it, even then the transaction is binding (Hamid, 2000).

In this text the Prophet Mohammad was clear in recognising the validity of the option of meeting place. The Prophet Muhammad clearly gives each of the contracting parties the option to cancel a sale at any time before the separation. The word separation is defined as one or both of the contracting parties physically leaving the place of the transaction. Determining what constitutes a physical separation is related to the prevailing business practices and customs. Therefore, when the contracting parties are separated from the place of meeting of the deal, the contract is considered to be legally irreversible (Al-Joroshy, 2003).

It is a common practice, especially with the advent of modern technological devices, to set up contracts where the parties are at a distance from each other. This can be classified in legal terms as contracting between absentees. In such a contract, the parties submit their proposal in one place while the receiving party is in a different location. A contract between the absentees is a contract conducted between the

contracting parties who have not been meeting in one place for bargaining (Al Mojtma., 1990).

The question of the validity of e-contracts from an Islamic law of point view was presented by some of researchers (Zainul et al., 2004; Alzaagy, 2007). Even though both sides of the Internet contract are not physically bound together, making contacts through Internet using means of instantaneous communication can be treated as being equivalent to contracting when both parties are facing each other (Al-Ebraheem, 1986). This is valid because the communication of acceptance and offers in both types of contract are carried out immediately. Thus, the formation of a contract by using electronic tools should be treated by the same rules as face-to-face transactions (Al Zaagy, 2007).

The study of consensus (ijma) and measure (qiyas) as sources of Shari'ah (Islamic law) are important for this study, because the Qur'an and Sunna obviously do not address the Internet or the electronic signature validity. In dealing with e-contracts, Islamic scholars look at these contracts according to the method of communication used. Therefore contracts through email, fax or any other communication methods that can be labelled non-instantaneous will be considered as contracts between absentees. It is believed that such a gap between offers and acceptance occurs in the form of electronic contracts using the tools of communication that are non-instantaneous. As a result, this type of connection should be treated as complying with aspects of Islamic law in the framework of the contract between absentees. In the past, the idea of the messenger and the message was the most famous. However, there have been various other means of technological media that have developed in our modern life. Examples include interactive websites, faxes and emails. In such devices, there is no direct link between the contracting parties; therefore, offers and acceptance are necessarily directly linked. Thus, such a contract is considered in law as an agreement between absentees and is organised accordingly (Al-Tayyar, 1997).

On the other hand there are some contracts that have been developed by the method of instant communication which are considered by Islamic law as face-to-face contracts. In face-to-face transactions, there is no interval in the timing of communication so both offer and acceptance can be carried out by spontaneous electronic forms of communication. This kind of instant electronic communications may be in the form of sound, such as by telephone, or voice and image, such as a conversation on video over the Internet (e.g., MSN Messenger), or with the moment of writing, such as with chat rooms on the Internet (Alzaagy, 2007).

Thus, in general, it is believed that this new type of commerce known as electronic commerce is fully conforms to the principles and general rules of Islamic law and accordingly, it is permissible to carry out all types of commercial activities via the Internet as long as they do not conflict with some of the key aspects of Shari'ah law.

4.2.7 The influence of religion/religiosity on individual attitudes to risk and uncertainty

The influences of religion and religiosity on consumers' perception of risk have been mentioned by some researchers (John et al., 1986; Gentry et al., 1988; Miller & Hoffmann, 1995; Miller, 2000; Osoba, 2003; Freese, 2004; Hilary & Hui, 2009; Williamson et al., 2007). In his quest to investigate the differences on the risk preferences according to differences in religiosity between the sexes, Freese (2004, p 88) used data from the World Values survey 1990–1993 from the governments of the United States and Italy “*the data support the notion that risk preferences are related to religiousness*”. Sheth and Ram (1987: 78) list risk as a major barrier to innovation, as risk arises because “*all innovations, to some extent, represent uncertainty and pose potential side effects that cannot be anticipated completely*”. According to Williamson et al. (2007), religion has a core influence on Hofstede's uncertainty avoidance. Religion and spiritual power have allowed humans to address questions related to the uncertainty of life that science cannot answer. Therefore, the stronger the individual's belief system,

the more uncertainty can be avoided and the more risk that may be perceived in innovations.

A small number of empirical studies linked perceived risk and uncertainty to religiosity. John et al. (1986) discovered a relationship between willingness to try new products, perceived risk and religiosity. In a study of the geographical sub-cultures in the United States, Gentry et al. (1988) reported that people in areas of higher levels of religiosity perceived higher levels of risk with new products. Miller (2000) stated that only in Muslim and Christian societies was there a significant correlation between being risk-averse and attending religious services. He stated that there are no differences between individuals from different age and sex groups and their preferences of risk according to their religiosity. Miller (2000: 9) mentions that religiosity might lead to the decrease of adventure-seeking behaviour. He identifies there was a significant correlation between risk preferences and at least three of the four measurements of religiosity among the sample participants in Turkey. Moreover, in his study he stresses the importance for more studies to investigate the “complex” relation between cultures, religion, risk preferences and religiosity.

In a study conducted by Hilary and Hui (2009), in number of American companies, religiosity in the company influences their investment decisions in that companies located in countries with higher level of religiosity show a lower degree of risk exposure. Research has also suggested a positive correlation between an individual’s risk aversion and religiosity. According to Miller and Hoffmann (1995) there is a negative correlation between levels of religiosity and attitudes to risk and danger. Osoba (2003) reports that risk-averse individuals attend church more often than risk-seeking individuals. Those who attend religious services more often or who directly follow religious texts are less likely to accept risky payments (Hilary & Hui, 2009). Diaz (2000) noticed that individuals who attend religious services in Las Vegas gambled less frequently and for lower amounts than those who attended services less regularly. Miller

(2000) mentioned that many studies of religion emphasise the link between religion and fear of uncertainty.

In their study of immigrants in Germany, Bartke and Schwarze (2008) found that religiosity is a significant determinant of attitudes to risk. They argue that religious people are less tolerant of risk than atheists. Moreover, they claim that religious affiliation matters. For example, Muslims are less risk-tolerant than Christians. Also Miller (2000) in his international comparison, found a relationship between active participation in religious faith and risk aversion in monotheistic societies, but he could not identify this relationship among Buddhists or Hindus. Muslims' risky behaviour is limited by Islam. For example, the Qur'an limits the riskiness of financial and health-related behaviour by prohibiting gambling and drinking wine (Qur'an 5:90, 5:91).

In sum, studies have shown a negative correlation between the degree of religiosity and consumer risk tolerance and uncertainty acceptance. Therefore, it is expected that the more religious the individual, the less they will be willing to accept innovations as innovations are often associated with high risk and low certainty of outcomes.

4.2.8 Measurement of religiosity in consumer behaviour research

In an attempt to fully understand the essence of religiosity as a model of consumer behaviour, it is necessary to review the measurements of religiosity used in consumer behaviour studies. In the literature already covered, religion has been studied either in terms of religious affiliation or levels of religiosity. There is a crucial distinction between these two constructs. Religious affiliation, such as ethnicity and nationality, is to a large extent an attributed condition, while religiosity is essentially a personal attribute. In early studies of consumer behaviour, religious affiliation was measured (Engel, 1976; Hirschman, 1980, 1981, 1982a, 1982b, 1982c, 1985, 1983 ; Delener 1987) as being relative to the membership of religious faiths (e.g., Catholics, Protestants and

Jews). Measures were assumed to be constant across religious groups. Unfortunately, one of the limitations of such an approach is that it is very difficult to distinguish between the effects of characteristics of the religious affiliation from those of actual religiousness. Therefore, later studies operationalised the religious construct to measure consumers' religiosity. Wilkes et al. (1986) asserted that religion cannot be seen in the academy as a single, all-encompassing phenomenon, and therefore attendance at church alone is not an acceptable measure of religiosity. In their study, the dimensions of religiosity were assessed with reference to four items: church attendance, confidence in religious values, the importance of religious values and self-perceived religiosity.

Another approach to measuring religiosity that is popular in consumer research has been activated for the construction of the intrinsic-extrinsic Religious Orientation Scale (ROS). According to Allport and Ross (1967: 434), intrinsically religious people are genuinely committed to their religion, while extrinsically religious people are more self-serving. They state that an *“extrinsically motivated person uses his religion, whereas the intrinsically- motivated lives his religion”*. To be highly intrinsic is to be a true believer in the practice of the religion for its own sake. To be highly extrinsic is to view religious practices as a means to the social or personal ends. The ROS has proven to be an acceptable form of reliability and has shown some indication of applicability toward marketing in general and especially in consumer research (Delener & Schiffman, 1988; Delener, 1989, 1990a, 1990b, 1994 ; Essoo & Dibb, 2004). However, some researchers have recently raised concerns about the direct benefit of this scale in marketing research. Singhapakdi et al. (2000: 311) state that *“it is difficult to imagine any research in the field of marketing that would need this discrimination; only the degree of religiosity that results in behaviour is of interest in marketing, and only the intrinsic would translate their religiosity into behaviour”*. Donahue (1985:404) points out that extrinsic construct do not measure religiousness but measure attitude to religion as a source of comfort and social support. Perhaps the most serious deficiencies in the ROS are that they were specifically designed for use with Judaeo-Christian subjects.

Thus, a direct adjustment of the scale is not always feasible and valid for measuring the degree of religiosity of others' religions, although the scale has been used in a study on the topic of Muslims and Hindus in Mauritius (Essoo & Dibb, 2004). As a result of the psychometric evaluation of the ROS, Genia (1993: 287) recommends that the item measuring the frequency of worship attendance be dropped, because it "*presents theoretical as well as methodological problems*".

In the measurement of the Islamic religion, for example, this item applies only to men because they are obliged to attend worship in the congregation at the mosque. Elements of the ROS scale also show a lack of internal consistency to be of questionable value to the other Christian denominations (Genia, 1993).

Table (4-3) summarises the previous studies that provide empirical evidence of several important dimensions of religiosity. From these studies, some general conclusions can be drawn: consumer religiosity is a distinct concept that can be measured from different perspectives. While there are some differences in the literature about the exact number of dimensions in the measurement to be employed, most researchers agree that religiosity is a multidimensional concept.

Some elements of the Christian religiosity scales could be used to measure religiosity in other religions, as some of the concepts and elements are applicable. In general, these scales are culture specific, so they would not be suited to measuring religiosity among Muslims. Therefore, there have been serious attempts to develop a Muslim religiosity scale. Table (4-3) presents some specific examples. Since it is important to develop an effective Islamic religiosity-related scale, the rest of this section will discuss some previously proposed Islamic religiosity scales.

Table (4-3). Measures of religiosity

General religiosity scales		
Author and Year	No. of Dimensions	Name of Dimensions
Allport and Ross (1967)	2	Intrinsic and Extrinsic
Wilkes et al. (1986)	4	Church attendance, importance of religious values Confidence in religious values, and self-perceived religiousness
Delener (1990)	3	Religious affiliation, perceived strength of religious affiliation and religious orientation
McDaniel and Burnett (1990)	2	Religious affiliation and religious commitment
Sood and Nasu (1995)	4	Personal activity in one's religion, importance and confidence in religious values. Belief in the basic tenets of one's religion, self-evaluation of one's religiosity
Kim et al. (2004)	2	Religious affiliation and self-evaluation of one's religiosity
Delener and Schiffman (1988)	2	Intrinsic orientation, extrinsic orientation
LaBarbera and Stern (1990)	--	Jewish religious intensity (dimensions not specified)
Delener (1989, 1990a, 1990b, 1994)	2	Intrinsic orientation, extrinsic orientation
Esoo and Dibb (2004)	2	Intrinsic orientation, extrinsic orientation
McDaniel and Burnett (1990)	2	Cognitive commitment, behavioural commitment
Rodriguez (1993)	5	Church attendance, importance and confidence in religious values, self-perceived religiousness, religious beliefs, experience and practices
Siguaw et al. (1995)	1	Cognitive commitment
Turley (1995)	5	Traditional Christian beliefs, religiosity, confidence in the Church, permissiveness, civic morality
Michell and Al-Mossawi (1995, 1999)	--	Religious commitment (dimensions not specified)
Siguaw and Simpson (1997)	2	Spiritualism, devotion
Mokhlis (2009)	2	Religious affiliation, religious commitment
Islamic specific religiosity scales		
Khraim, et al. (1999)	7	Banking and insurance, public Islamic issues, individual Islamic issues, sensitive products, food consumption, religious education, ethics
Khraim (2010)	7	Islamic financial Services, Public Islamic issues, Individual Islamic issues, Sensitive products, Food consumption, Religious education And ethics
Krauss et al. (2006)	2	Islamic worldview and religious personality
Taai (1985)	2	Beliefs and practices
Albehairi and Demerdash (1988)	2	Intrinsic and extrinsic religiosity
Alsanie (1989)	1	One-dimensional approach (beliefs and practices)
Albliakhi (1997)	3	Beliefs, attitudes, and practice.
Source: Khraim (2010: 174–175); Mokhlis (2006); the researcher.		

The first attempt to develop an Islamic religiosity scale was conducted by Taai

(1985). The scale derives from Islamic teachings and theological sources. Taai examined beliefs and practices to measure the Islamic religion. However, Taai did not differentiate between what is recommended and what is obligatory. That could lead to biased results, because recommended practices are optional in Islam, and the Muslims have the right to ignore them if necessary. On the other hand, Muslims have no choice concerning some specific obligations.

A second scale has been developed by Albehairi and Demerdash (1988) who try to measure intrinsic and extrinsic [I and E] religious orientation among Muslims. Twenty items on their 34 item scale were adopted from Allport & Ross' Intrinsic – Extrinsic Religious Orientation Scale (1967). However, Albehairi and Demerdash's scale cannot be considered a true reflection of the real content of Islamic religion because Islamic teachings are different from those of other religions. For instance, the measuring of the frequency of worship attendance could not be considered as a reliable item in Islamic religion due to the differences in the obligatory nature of this item between men and women in Islam. The third attempt to measure Islamic religiosity was conducted by Al-sanie (1989). Al-sanie draws on the basic Islamic view that combines faith with deeds. He treats belief and practice as one-dimensional and treats religion as a general concept. Despite the influence of belief on behaviour, the Islamic faith is supposed to be synchronised with people's everyday lives, so these elements are not necessarily inseparable. In other words, a person of good faith and strong belief in religion must act with regard to beliefs or practice. On the other hand, a person can exercise honesty about what he or she believes in, but this belief may not be in accordance with the teachings of religion. Another limitation of the Al-sanie scale is that it has been developed to be used with Muslim men only, and to reflect the Sunni Muslims religious denomination.

A fourth scale was developed by Khraim et al. (1999) to measure the dimensions of Islamic religiosity in Malaysia, and the dimensions used in the study had been directed at more practical behaviour. The dimensions were Islamic financial services, the

seeking of religious education, current Islamic issues and sensitive products. The researchers state that the rationale for the use of these four dimensions was to include as many issues as possible so that the dimensions reflect the belief that Islam is a complete way of life rather than a collection of the rituals in the strict religious sense.

The fifth scale was developed by Krauss et al. (2006). The Muslim religiosity-personality inventory (MRPI) consists of two subscales: 'Islamic worldview' and 'religious personality'. The 'Islamic worldview' reflects the specific theological pillars of Islam, while the 'religious personality' represents general religious behaviour with many similarities with other religions. The 'Islamic worldview' subscale is unique in its goal of measuring the level of understanding of the main religious teachings in the Islamic faith. The 'religious personality' subscale, despite containing several items specific to the religious practice of the Islam, includes several items which are global in nature and not necessarily specific to Islam.

From the discussion of the Islamic religiosity scale, it can be observed that there are some problems that researchers usually encounter when developing measurements of Islamic religiosity. These include problems related to the measurement of the two key dimensions of religiosity, which are belief and practice. Belief in Islam includes both 'basic elements of belief', and "*complementary elements of belief*". The problem with those two dimensions is that it is difficult to measure them in a Muslim community, because they are a cornerstone of what it means to be a Muslim. Therefore, measuring such dimensions is both difficult and impossible to justify. In addition, "*it seems that it will be guaranteed that we get zero variation in items that measure this construct*" (Khraim, 2010: 175). Another potential problem in measuring Islamic religiosity relates to the difficulty in developing a single reliable scale that measures religiosity in both sexes. For instance, there are some obligations in Islamic religion that are specific to one gender but not to the other. For example, praying in the mosque and not wearing gold and silk relate to men only. Moreover, there are different interpretations of the holy scripts among different Islamic denominations and within the same Islamic

denominations. This affects the determination of what is considered as a religious practice and what is not.

The nature of personal religiosity constructs is measured using Krauss et al. (2006)'s scale of, religious personality, which is a subscale of the MRPI (Muslim religiosity inventory). The religious personality has been chosen as a measurement of religiosity for this thesis because of its reliability and validity. Moreover, the religious personality has proven to be reliable in measuring religiosity within different religious affiliations. According to Krauss & Idris, (2007), the religious personality scale was able to measure religiosity in Hindus, Muslims, Christians and Buddhists in Malaysia. Moreover, the personal religiosity scale has been developed to be suitable for use for both men and women. The scale is also suitable for use for different Islamic denominations. According to Krauss & Idris (2007: 148), the "*Islamic world view*" as a subscale of the MRPI is unique and it is more related to the idea of faith in the Islamic belief. In the other hand, the "*religious personality*" subscales system "*is representative of general religious behavior that shares many similarities with other revealed faiths*". Therefore, for the purpose of this research the researcher decided to use Krauss et al. (2006)'s religious personality scale only. Khraim (2010) believes that the scales that measure faith within Islamic religion do not identify significant variations among Muslims respondents, while Islamic religiosity scales that measure religious practices indicated that there are significant variations among respondents in this regard. Moreover, the first pilot study of this research questionnaire revealed that there were no significant differences among Muslim respondents in regard to the "*Islamic world view*", while the differences among respondents in regards to "*religious personality*" were significant.

4.3 Human values and consumers' behaviour

Values are an important element in individual character and they can generally be considered to be a relatively stable in nature (Kamakura & Novak, 1992). However, they

can still change during an individual's life. This change in an individual value system can be attributed to changes in culture (Karhanna et al., 2005). Therefore, it may be assumed that individuals can adopt new values that are different to the values they used to have in their mother culture. When an individual moves to new culture that emphasises new values, these may contradict the individual's original value system, and the individual may choose to cope with those new values. Karahanna et al. (2005) state that individual experiences have influence on their value systems besides the influences these experiences have on the stability of their value systems.

According to Rokeach (1973a) people use their culturally learned values to determine whether they are as moral and competent as others. People from the same culture may differ in their consumption behaviour according to the country they are living in (Lindridge, 2005). Those who live in Western cultures and who come from Eastern cultures usually face a struggle between their own values and the values that are respected in their new culture. In this case, individuals either choose to give up their original values in order to be accepted in the new culture, or they prefer to hold on to their original values; even though this mean they may be isolated from the new culture. The degree of commitment to one original value system may be related to the religiosity of the person, as several studies have shown a significant relationship between some values and religious affiliation and religiosity (Milton, 1969a, 1969b; Roccas & Schwartz, 1997; Schwartz & Huisman, 1995; Saroglou et al., 2004).

Several researchers have suggested the influence of value in individual behaviour (Rokeach, 1972; Zelizer, 1978; Becker & Conner, 1981; Kahle, 1996; Daghfous et al., 1999). These influences can be directly related to individual behaviour or can be indirectly communicated through their influences on beliefs and social norms (Karhanna et al., 2005). Therefore, it is important to investigate human values in order to get a better understanding of consumers' technology acceptance.

This section of chapter four began by presenting different definitions of human values. Then the second subsection is discusses the relation between religion, religiosity, and values. The discussion in the section goes on to investigate the influence of human values on consumer behaviour. The fourth subsection is dedicated to discussing the influences of human values on consumers' adoption of innovations. The section is then concluded with discussion of three of the recognisable human value theories.

4.3.1 Definitions of human values

There are different definitions of values. These definitions are rooted in marketing, sociology, and psychology. However, almost all definitions of values agree that values have an important influence on motivating and guiding individuals. Also, values are an important element in individual personality and play a key role in individual responses to different stimuli. Schwartz and Bardi (2001: 269) define values as “*desirable, transsituational goals, varying in importance, that serve as guiding principles in people’s lives.*” On the other hand, Hawkins et al. (2001: 42) considers values to be “*widely held beliefs that affirm what is desirable*”. In his definition of values, Rokeach (1980: 262) stated that values are “*shared prescriptive or proscriptive beliefs that indicate an ideal mode of behaviour or desired state of existence that may be situational or pertain to an object*”. Kamakura and Novak (1992: 119) refer to values as,

A single belief that transcends any particular object, in contrast to an attitude, which refers to belief regarding a specific object or situation. Values are more stable and occupy a more central position than attitudes within a person’s cognitive system. Therefore, they are determinants of attitudes and behaviour and hence provide a more stable and inner-oriented understanding of consumers.

Homer and Kahle (1988) state that evidence shows that values can influence attitudes, which in turn can influence behaviour. Kahle (1983) argues that values are similar to attitudes. Schwartz stresses the difference between the concept of value and that of attitude. On the other hand, Rokeach (1968) states that values are deeper than

attitudes, but some social scientists still cannot reach a consensus on the differences between them. Rokeach (1973) also points out the importance of values in guiding actions, attitudes, and judgements. Values have an important role as they influence the structure of attitudes and their importance in attitude change has been referred to by Thompson and Hunt (1996). Clawson and Vinson (1978: 396) suggest that,

Values may prove to be one of the powerful explanations of, and influences on, consumer behaviour. They can perhaps be equal to or surpass the contribution of other major constructs including attitudes, product attributes and degrees of deliberation, product classifications, and lifestyles.

From the discussion above, it is clear that values are an important element in shaping individuals' behaviour. It is also obvious that values are distinguishable from attitudes and are considered to be one of the key factors that influence both attitudes and behaviour.

4.3.2 The relation between religion, religiosity and values

According to Schwartz and Huisman (1995: 88), "*Religion is often seen as a value in itself, and is also regarded as a way of life that encourages people to strive other values*". However, religion can also play critical role in determining the priorities of certain values. Roccas and Schwartz (1997: 358) suggest that theological teachings might lead religious people to give more priority to values such as peace, love, forgiveness and equality. According to Rokeach (1969a), values and religiosity are perceived to be related to each other. As the religion emphasises the important of some values and might down played the importance of other values.

The influence of socioeconomic development on the relationships between values and religiosity has been examined in a meta-analysis of 21 samples from 15 countries, with the findings supporting the pattern of relationships of values and religiosity (Saroglou et al., 2004). The influence of religion on individual value systems

can be attributed to the practices of religion in one's own life. As Schwartz and Huisman (1995: 91) state, "*Religions encourage people to seek meaning beyond every day existence, linking themselves to ground being through belief and worship*". Moreover, Kahle et al. (2005) argue that religion and religiosity are important factors in consumer behaviour as they provide a basis for the socialisation of values. They also argue that religion is one of the forces that may influence social values and provide a basis for social identity.

Almost all theories agree that religions have an influence on value system, as religions adherents take on specific value systems through socialisation (Wulff, 1991). However, "*Extensive cross-cultural research on values indicates that religious group do differ in their values and goal*" (Roccas, 2005). That indicates that people from the same religious affiliation may disagree about value priorities (Schwartz & Huisman, 1995).

Schwartz and Huisman (1995) examined the relationship between religiosity and values within the framework of Schwartz's theory. In their study, they consider theological psychological and the sociology of religiosity. Their sociological analysis suggests that religion provides a basis for social structure and norms but that it also discourages questioning and innovation and encourages the acceptance of social order. On the other hand, in their psychological analysis, they suggest that the degree of religiosity reflects the intensity of the need to reduce uncertainty. In their theological analysis they argue that religion emphasises feelings of awe, respect, and humility. In the same study, which includes Israeli Jews, Spanish Roman Catholics, Dutch Calvinist Protestants, and Greek Orthodox practitioners, Schwartz and Huisman (1995) found that religiosity is positively related to values of tradition, conformity, security, and benevolence, whereas it is negatively correlated with hedonism, stimulation, self-direction, power, universalism, and achievement values. Schwartz and Huisman (1995) comment on the previous studies of the relationship between religiosity and value, which, as they were mainly conducted in the United States, cover only one religious affiliation and some of these studies do not specify the religion of their sample.

In his study to determine whether those who are religious have distinctive pattern of values from those who are less or non-religious, Rokeach (1968), found that religious, the less religious, and non-religious have value systems that are distinctively different from one another. The relationship between religion and the state can moderate and/or mediate the influence of religion on personal values. In countries where religious institutions receive higher status in relation to the state, there tends to be a stress on certain values. In their study, which was conducted in six mainly Catholic European countries, Roccas and Schwartz (1997) investigated the influence of the church-state relationship on the correlation between religiosity and values. They found that religiosity was correlated less positively with valuing conformity and security, more negatively with valuing power and achievement and more positively with valuing universalism in countries with oppositional relations between church and state. Therefore, the authors conclude that “*the opposition between church and state modifies the associations of values with religiosity because it influences the social and psychological functions of religiosity in society*”.

Religious leaders have an important role in distributing certain values in society and downgrading other values (Schwartz & Huisman, 1995). The association between values and religiosity is affected by religious institutions because they influence the social and psychological functions of religiosity in society (Roccas & Schwartz, 1997). In some countries there is no separation between church and state, as the case of Saudi Arabia. The fear of owning a forbidden product is not only related to punishment by law, but it is also the fear of being branded as un-Islamic (Kalliny & Hausman, 2007).

Rokeach (1968) uses the Rokeach value survey to measure respondents' values. According to his findings, religious people tend to rank salvation higher than those who are less religious. Less religious and non-religious people typically ranked the competence value more highly, with regard to some terminal values such as world peace, happiness, mature love, inner harmony, self-respect, wisdom and true friendship.

Also, for some instrumental values such as cheerfulness, courage, responsibility and self-control, the three religious groups clearly shared them. There is a question however, about whether these studies had investigated the relationship between religion, religiosity and values in enough detail to reach generalisable conclusions. In their meta-analysis of studies that have used Schwartz's model, Saroglou et al. (2004: 732) claim that many of the studies that used Schwartz's scale of values were conducted in secularised societies with young adults as participants. Moreover, they commented that most of the studies were conducted with members of Christian denominations and that almost all the studies were conducted in Western societies and that "*little is known about the psychological empirical aspects of religion in Eastern societies*".

Thus, the above review indicates that there are significant numbers of studies that show differences in beliefs and attitudes between different religious groups such as Jews, Catholics and Protestants. Also, there are studies which outline differences in attitudes and beliefs between various Protestant denominations (Allport & Ross, 1967; Rokeach, 1968). There are, however, not enough empirical studies that investigate the differences in attitudes, values, and beliefs between Eastern religions and different denominations within these religions. Therefore, there is a need to further investigate the relationships between religion, religiosity and values by including different religions and religious groups.

4.3.3 The influence of human values on consumer behaviour

The concept of personal values has been investigated in several fields of study, such as in sociology (Zelizer, 1978), marketing (Kahle et al., 1986), and psychology (Rokeach, 1973 and Schwartz 1992). The common theme of these studies is their interest in understanding the influence of personal values on behaviour. Beatty et al. (1985: 184), argue, "*values underlie consumption behaviour and are more inherently useful than demographics in understanding attitudes and behaviour*".

Cultural values have a strong effect on behaviour; therefore studying values in different cultures allows researchers to understand the differences in behaviour between cultures (Hawkins et al., 2001). Value differences between cultures have an influence on consumers' reaction to marketing activities. According to Hawkins et al. (2001) consumers from cultures that differ in individual/ collective values differ in their reactions to marketing practices.

The concept of values has been widely used by marketing and consumer behaviour researchers (Munson & McIntyre, 1979; Kahle, 1983; Beatty et al., 1985; Daghfous et al., 1999). Values influence consumers' consumption attitudes and behaviour (Donthu & Cherian, 1994). Rokeach (1973) claimed that values guide actions, attitudes and judgement. Furnham (1984: 483) states that "*values maybe seen as being related to needs, which in turn related to attitudes and behaviour*". In regard to the use of values in marketing, Kamakura and Novak (1992) refer to the increased use of personal values as a basis for market segmentation.

In his review of social science literature on value-behaviour consistency, Williams (1979) concluded that values influence behaviour. The important of values in consumer choices has been stated by many researchers (Homer & Kahle, 1988; Reynolds & Gutman, 1988; Kahle, 1996). Moreover, Nepomuceno and Porto (2010) argue that most individuals' behaviour is influenced by their personal values. Most consumers may choose certain product or brands that may be positively related to their personal values, while rejecting another product or brand if it is negatively related to their personal values.

There is a consensus on the importance of studying the impact of values on individual behaviour. Also, there are differences in the ways researchers study these influences. Some of the studies concentrate on investigating the influence of only one value that may not give clear picture of the influence of values on attitudes, beliefs, and behaviour. Schwartz and Bilsky (1987) stress the importance of investigating the

influences of individual value system, rather than single value as the individual value system should provide a more complete understanding of the motivational forces driving an individual's beliefs, attitudes, and behaviour. The influence of a person's values on attitudes and behaviour can be evaluated more effectively and reliably with regard to information about the person's whole value system, rather than on single values.

In investigating the relationship between values and behaviour, Carman (1977) developed a model that shows values as a determinant of consumer behaviour. Also Becker and Conner (1981) found that values as measured by the Rokeach value system (RVS), predict mass media usage. Beatty et al., (1985) stress the importance of conducting future research into the field of value-consumption, taking different areas of consumption into consideration, including "*additional population*", and "*additional methods of measuring values*". Compared to the influence of values on e-behaviour, where there is not enough evidence of a significant relationship between these two concepts, the influence of values on attitudes has been well established in previous research. For instance, Homer and Kahle (1988) suggest that values may influence attitudes in a significant way, which in turn influences behaviour. According to Pitts and Woodside (1986), there is a strong relationship between values and attitudes, but a weaker relationship between values and behaviour.

In their study of the relationship between personal values and attitudes, Nepomuceno and Porto (2010) surveyed 1060 employees working in banking services in Brazil. In their study they used the Schwartz value survey (SVS) to measure values. They concluded that conservation values were the best predictor of attitudes to banks' services.

In the context of e-marketing, studies have shown relations between personal values and e-consumers' attitudes. Jayawardhena (2004) investigated the relationship between personal values (self-direction, enjoyment, and self-achievement) and consumers' attitudes to e-shopping. He found a significant positive relationship between

the two concepts. Jayawardhena (2004) concluded that consumers' attitudes to e-shopping were a direct predictor of e-shopping behaviour. Jayawardhena (2004) argued that consumers conduct e-shopping because they believe it is preferable to shopping at a traditional retailer. Therefore, e-shopping can be related to specific dimensions of personal values.

It is clear from the discussion above that values are important in predicting consumers' behaviour, either through their direct or indirect influence. Therefore, it is suggested that more studies should be conducted to further the understanding of such influences (Beatty et al., 1985).

4.3.4 Human values' influence on consumers adoption of innovations

There is a limited amount of research into the influence of cultural values and religious on consumers' innovation adoption (Kalliny & Hausman, 2007). The adoption process of new products differs from one person to another according to demographic, socioeconomic, psychographic and cultural characteristics (Daghfous et al., 1999). Also, a person's value system plays an important role in the decision to adopt or reject innovations (Kalliny & Hausman, 2007). Therefore, an understanding of such factors is valuable in expanding the knowledge of consumers' innovation adoption processes.

Daghfous et al. (1999) investigated the influence of the value system of consumers from different cultural groups, including Quebec, France, and North Africa. The three groups were all living in Canada. They found that individual values had a significant impact on consumers' tendency to adopt new products. They also suggested that consumers who scored high on the values of security, the feeling of belonging and self-respect were expected to exhibit more conservative and conformist behaviour. Therefore, they would be less innovative and would usually delay their decisions to adopt new products and services. On the other hand, those consumers who score higher on hedonistic values are expected to look for pleasure through the experience of trying

new products and services. Therefore, they would be more willing to adopt new products and services. Even though Daghfous et al. (1999)'s study is regarded as one of the important studies investigating the influence of personal values on consumers' innovativeness, the study relies on university students as participants, which limits the generalizability of its findings with regard to other consumers groups, as students groups tend to be more educated and knowledgeable and younger.

Laukkanen et al. (2007) investigated the relationship between personal values and consumers' resistance to mobile banking. After their analysis of a total of 1151 Internet survey responses, their results show that consumers with more self-fulfilling and self-respecting values have lower resistance to accepting mobile banking. On the other hand, consumers who scored higher in terms of the need for security were more resistant to accepting mobile banking. Laukkanen et al. (2007) state that the influence of personal values on individual e-banking behaviour has not received enough attention. Therefore, there is a need in the future to study the relationship between values and consumers' adoption of new technologies.

Even though the above discussion indicates the importance of values for innovation acceptance, not enough studies have investigated the influence of values on innovation acceptance in Eastern cultures. There are only a limited number of studies that investigated the influences of values in Arabic culture.

4.3.5 Theories of human values

The impact of cultural factors on consumer behaviours has been studied by marketing researchers for many years. Researchers have tried to measure the influence of individual values and a literature review reveals that the three most popular approaches are: the Rokeach value system (RVS) (Rokeach, 1973); the list of value (LOV) (Kahle, 1983) and the Schwartz value scale (SVS) (Schwartz, 1992). Each of these approaches has shown that individual values influence personal beliefs, attitudes, behaviour and

preferences in a wide variety of contexts (Lee et al., 2007). In the following subsections, each of these three recognisable human value theories is discussed.

4.3.5.1 Rokeach value system

One of the most important concepts in Rokeach's theory of human values is that, once a value is learned, it becomes part of a value system in which each value is ordered in a priority relative to other values (Rokeach 1973: 9–17). Rokeach's value survey is one of the most widely used measurements of personal values. He developed the RVS in cognitive framework expecting that it would provide information for better understanding what values are, what people value, and what is the ultimate function or purpose of value (Feather, 1982).

Rokeach (1973: 5) conceptualised personal values as *“enduring beliefs that specific modes of conduct or end-states of existence are personally or socially preferable to opposite or converse modes of conduct or end-states of existence”*. In his model, he considered values as a system of global beliefs. Rokeach (1968) argued that the centrality of types of beliefs is high when 1) the beliefs are directly concerned with the self, and 2) they have connections with other beliefs. In order to measure values, Rokeach created the RVS which consist of two sets of values (see table: 4-4), entitled instrumented values and terminal values. Each set of contains 18 values. Subjects rank each value in order of importance (Beatty et al., 1985). In his measurement of values Rokeach (1973) established that respondents found it difficult to rank 18 values. He also found that respondents tended to rank extreme values more reliably than the less extreme values. Because of the difficulties associated with its use, Rokeach's measurement has been found to be inappropriate for many studies. It has not been used widely in cross-cultural studies, as there is insufficient evidence of its reliability and cross-cultural validity.

Table (4-4). Rokeach value system (RVS)

Terminal values	Instrumental values
A comfortable life	Ambitious
An exciting life	Broadminded
A sense of accomplishment	Capable
A world of peace	Cheerful
A world of beauty	Clean
Equality	Courageous
Family security	Forgiving
Freedom	Helpful
Happiness	Honest
Inner harmony	Imaginative
Mature love	Independent
National security	Intellectual
Pleasure	Logical
Salvation	Loving
Self-respect	Obedient
Social recognition	Polite
True friendship	Responsible
Wisdom	Self-controlled
Source: Karahanna et al. (2005: 20)	

4.3.5.2 The list of value

Kahle (1983) developed the list of value (LOV) to overcome the limitations associated with RVS. Compared with RVS, LOV has attractive features, and it is easier to manage as it does not require the respondents to rank values, making it easier to evaluate those values. LOV was developed by researchers from the University of Michigan (Kahle, 1983) and its theoretical basis comes from the work of Feather (1975), Maslow (1954), and Rokeach (1973). The values included in LOV are: excitement, a sense of belonging, warm relationships with others, the fun and enjoyment of life, self-fulfilment, being well respected, a sense of accomplishment and self-respect. The LOV scale is widely applied and acknowledged in recent marketing literature for measuring values of consumption behaviour (Laukkanen et al., 2005). Even though LOV has been applied widely in marketing research, an insufficient number of studies have used this measurement to investigate the relationship between values and religiosity.

4.3.5.3 Schwartz value scale

Schwartz (1992) criticises focusing on single values in studying the relationship between values, attitudes, and behaviour. He stresses the importance of using a “*comprehensive set of different motivational types of values*”. He states three problems that may occur when using a single value approach in studying attitudes and behaviours. These problems are as follows,

First, the reliability of any single value is quite low... second, in the absence of a comprehensive set of values or of broad theory to guide selection of target value, values that were not included in a study may be equally or more meaning fully related to the phenomenon in question than those studied... third, and most important, these single-value approaches ignore the widely shared assumption that attitudes and behaviour are guided not by the priority given to single behaviour but by tradeoffs among competing values that are implicated simultaneously in behaviour or attitude. (p.121)

Schwartz (1992: 1–2) aimed to answer three questions, which were, “*first, how are the value priorities of individuals affected by their social experiences... second, how do the value priorities held by individuals effect their behavioural orientations and choices?...three, what causes differences in values cross-culturally or cross-nationality*”. He identified ten types of motivational values, seeing these types of values as relatively comprehensive, so that the meaning of these value types were equivalent across most groups in 20 countries.

According to Schwartz (1992) there are universal values which can be examined within ten constructs (see table 4-5).

Table (4-5). Universal value types defined by motivational concern

Individual types	
Hedonism	Pleasure or sensuous gratification (comfortable life, pleasure [broader enjoyment includes: cheerfulness, happiness])
Achievement	Personal success through demonstrated competence according to social standards (sense of accomplishment, successful, ambitious, capable)
Self-direction	Independence through action-choosing, creating, exploring (creativity, independent, imaginative, intellectual, logical)
Self power	Status and prestige, control or dominance over power resources (authority, social power, wealth, preserving my public image)
Stimulation	Excitement, novelty and challenge (a varied life, an exciting life, daring)
Collective types	
Prosocially	Preservation and enhancement of welfare of others (equality, world at peace, social justice [universal subset]; forgiving, helpful, loving, honest [interpersonal subset])
Restrictive conformity	Restraint of action, impulses and inclination likely to harm others or violate social expectations (obedient, politeness, self-discipline)
Security	Safety, harmony, and stability of society, of those with whom one identifies, and self (family security, national security, social order, sense of belonging)
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion impose (respect for tradition, accepting my portion in life, devout)
Both	
Maturity	Appreciation, understanding, and acceptance of oneself, of others, and of the surrounding world (broadminded, world of beauty, wisdom, mature love)
Source: Schwartz & Bilsky (1990: 144)	

Schwartz's theory of universal values started as an extension of RVS (Rokeach, 1968). Schwartz and Bilsky (1987, 1990) began with RVS when they were looking for constructs into which each specific value items could be grouped. In 1992, Schwartz refined the instrument developed what is now called the SVS. The instrument contained 53 items load ten value constructs (see figure 4-1).

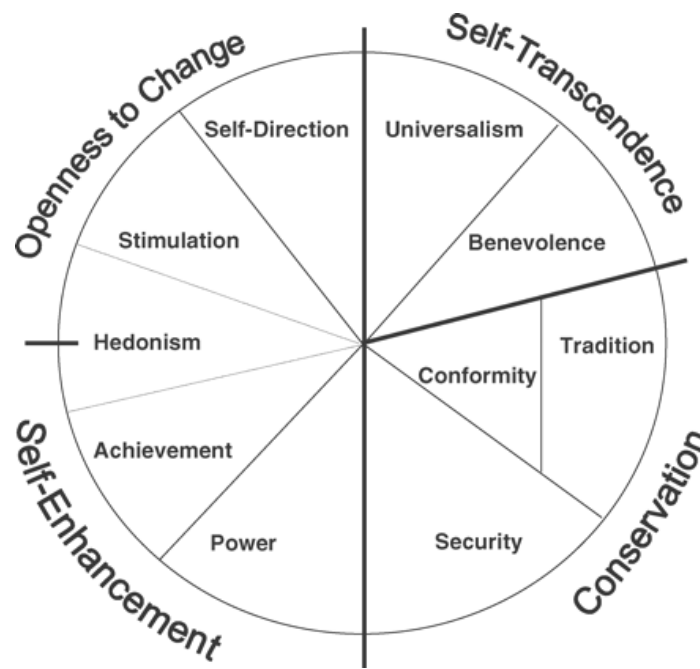


Figure (4-1). Structural Relations among the 10 Values and the Two Dimensions.
Source: Davidov et al. (2008)

According to Nepomuceno and Porto (2010), Schwartz's measurement method stands out among several ways of measuring values. Schwartz's theory of the universal structure of human values has been followed through in several countries (Roccas & Schwartz, 1997; Schwartz et al., 2000; Schwartz & Boehnke, 2000; Schwartz, 2005). It has been used by several researchers in different countries (Israel, the Northern Land, Spain, Germany, Italy, Portugal, and Czech Republic, Hungary, USA, Mexico, Turkey, Switzerland, France, and Belgium).

Schwartz's value model has been used to investigate the relationships between religiosity and values within different religions and countries and has been proved to have high validity and reliability in reflecting the differences in values within these religions and countries. Moreover, the model has been used within IT acceptance research (Bagchi et al., 2011; Udo et al., 2008) and is capable of providing reliable and

valid results. Since the research on hand investigates the influence of religiosity on human values, it can also examine the influence of human values on consumers' technology acceptance. So it is appropriate to use Schwartz value measurement, as it has been tested cross-culturally and scores high in terms of both reliability and validity.

This discussion of human values seems to indicate that, even though researchers differ in their conceptualisation of values, they agree on the importance of looking at values as a multidimensional construct. They generally agree about the influence of values on individuals' behaviours. In addition, from the previous discussion it could be inferred that values are different from attitudes, needs, traits and social norms. It is also obvious that values are among the most important cultural elements that influence consumers' consumption behaviour.

4.4 Conclusion

In an attempt to answer the research question, "What are the factors that may influence consumers' intention to use Internet-only banks?" chapters 3 and 4 of this thesis discuss a number of issues with regard to factors that are related to predicting an individual's technology acceptance behaviour. The review of religion and human value enable more information about its role in the theories of technology acceptance and may allow us to answer questions such as why technology acceptance models that are developed in one country have met with limited success when applied in another culture, and why those models are not found to be uniformly effective in predicting individuals' innovation acceptance behaviour when they are applied across cultures. Discussion of the impact of religion and human values enable us to answer these questions. Despite the fact that most of the studies of the predictability of the technology acceptance model have identified cross-cultural differences between the models evaluated in a US and non-US context, not enough studies have been conducted to investigate the cultural effect on the technology acceptance model's ability in predicting consumer behaviour in different cultural context.

One of the goals of the current study was not only to examine the inherent cultural bias in models of technology acceptance behaviour, but also to investigate the individual-based differences that lie within the same culture. Moreover, the intention was to examine the influence of different cultural factors on individual technology acceptance. Therefore, the study has focused on those studies, which, directly or indirectly, incorporated cultural influences on technology acceptance behaviour. It has also concentrated on discussing the impact of religion and values on consumers' technology acceptance.

As discussed in section (4.2), previous studies have investigated the influence of religion and religiosity, particularly Judaism and Christianity, on consumer behaviour. There is a clear need to expand understanding of religious influences on consumer behaviour by investigating different contexts and different religions. In addition, the moderating influence of some important variables such as religious leaders' advice and the roles of those leaders in shaping consumer decisions have been neglected by most previous researchers. Therefore, the study was intended to further understanding of the direct and indirect role of religion on consumer technology acceptance behaviour. This study was not only interested in understanding the role of religious teachings on consumer behaviour but was also intended to further the understanding of the religiosity role in his/her behaviour. It also discussed in some detail the importance consumers place on religiously related products and services and their willingness to listen to religious leaders' advice as two important variables, which are important in determining the nature of consumers' consumption behaviour. However, this study has gone further in investigating the impact of religion on individual behaviour by investigating the effects of religiosity on value systems.

The question of the impact of religion on technology acceptance is researched through qualitative and quantitative studies. The first part of the qualitative study, focusing on religious scholars semi-structured interviews, tries to answer the question of how religious teachings can affect consumers' acceptance of technology. The qualitative

study, using semi-structured and in-depth interviews support the quantitative investigation of the significance of the relationship between consumer religiosity and consumer acceptance technology. Following the literature review, this sub-model (figure 4-2) was developed in this chapter. The quantitative section of this thesis will test this sub-model as a component of the general research model (figure 9-1).

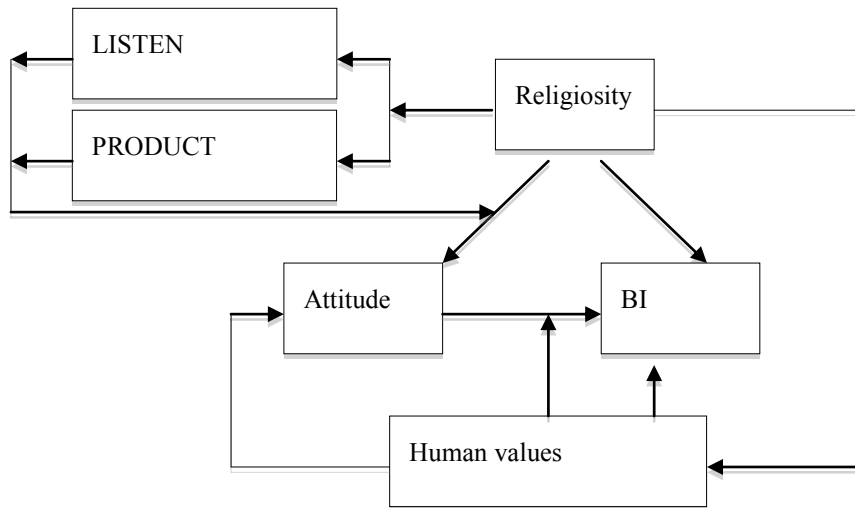


Figure (4-2). Proposed model of the influence of two of cultural factors on consumer technology acceptance behaviour

4.5 Summary

The chapter elaborated on discussing the influence of religion and values as two cultural elements that affect consumers' behaviour in general and their technology acceptance behaviour in particular. The review of the literature on the influence of religion and values on consumer behaviour revealed that there are relationships between these two cultural elements and consumers' levels of technology adoption. The review also indicated that both values and religion are considered stable variables that have a significant influence on people's consumption. Therefore, it is important to extend the

research to investigate their influences in different settings with different products and services.

From previous discussions within the chapter, it could be concluded that the diffusion of technologies has been influenced by complex interactions between different cultural and technological factors, such as technology, politics, the economy, and cultural dimensions. Such relationships involve innovation adoption, socioeconomic status and cultural issues are complex.

The next chapter will be devoted to establishing the research methodology. In addition, the philosophical and methodological approaches to the research will be discussed.

Chapter five: Research methodology

5.1 Introduction

The previous three chapters (2, 3 and 4) in this study focused on reviewing the relevant literature. The current chapter gives an overview of the research methodology in general and then explains the research methodology adopted in this research.

Research methodology has been defined by Silverman (2006: 15) as follows: “*the choices we make about cases to study, methods, of data gathering, forms of data analysis etc.*” Saunders et al., 2007: 83) describe the research process as being like a series of layers of an onion (see figure 5-1), beginning with the research philosophy, followed by determining which research approach will be followed, then developing the research strategy, then making a decision on the time horizons of the research. In the central layer, the researcher determines the data collection methods. Throughout this chapter, the research process is described in these terms.

Important aspects are discussed in detail later in this chapter. This chapter starts by explaining the scientific research paradigm, this is followed by discussions of the research methods, and then the chapter presents a description of the research setting, and concluded by a summary of what have been discussed through the chapter.

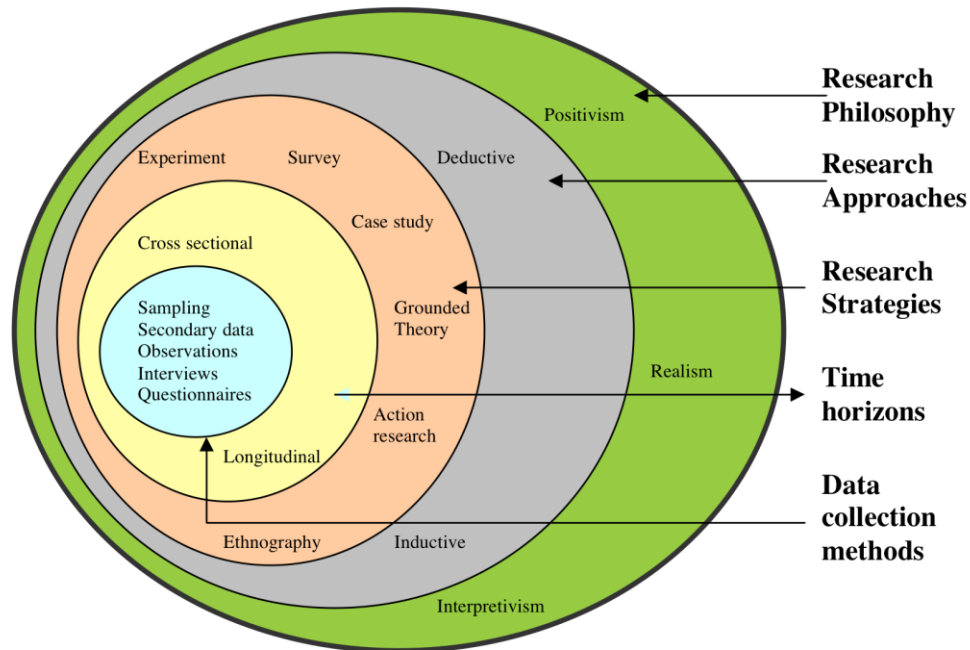


Figure (5-1). The research process. Saunders et al. (2007: 83)

5.2 Scientific research paradigm

Deciding on the appropriate philosophical approach is essential in conducting research in social sciences. Research philosophy has been described as a way of thinking about the development of knowledge (Saunders et al, 2007). According to Easterby-Smith et al. (1991) there are three reasons for the importance of understanding of philosophical issues. These are: 1) to help the researcher understand the procedures of research to be undertaken, 2) to determine a research design that is suitable for investigating the research problem, and 3) to help the researcher identify research designs that may be new to him or her.

Research ontology and epistemology are two important philosophical elements that the researcher should consider before conducting research, as they have implications

for the choice of research methodology, the method of data collection and the way the research will be conducted. Therefore, determining the philosophical approach is important to provide a framework for the research activities. Moreover, determining which paradigm to follow is important in deciding how a research problem should be explored and which methods should be used.

According to Burrell and Morgan (1979: 24), *"To be located in a particular paradigm is to view the world in a particular way"*. Patton (1990: 37) called a paradigm a *"world view"*. Bryman (2001: 453) identifies a paradigm as *"a cluster of beliefs and dictates, which, for scientists in a particular discipline influence what, should be studied, how research should be done [and] how results should be interpreted"*.

A paradigm is a framework for understanding and observation that shapes both what we see and how we understand it (Babbie & Mouton, 2001: 645). Lincoln and Guba : 15) assert that *"Paradigms represent what we think about the world (but cannot prove). Our actions in the world, including the actions we take as inquirers, cannot occur without reference to those paradigms: 'as we think, so do we act'."* A paradigm provides a conceptual framework for seeing and making sense of the social world. It reflects three basic beliefs, which are ontology, epistemology, and methodology, and which can be described as follows:

The first stage in planning research is to define the relevant ontological stance. *'Ontology'* refers to the study of reality, nature and form (Guba & Lincoln, 1994). Ontological enquiry raises basic questions about the nature of reality. Noonan (2008: 577) states that, *"Ontology is not concerned with the specific nature of empirical entities, but rather with more basic questions of universal forms of existence"*.

On the other hand epistemology *"...is the theory or science of the method and ground of knowledge. It is a core area of philosophical study that includes the sources and limits, rationality and justification of knowledge. Its etymological roots are Greek, from episteme (knowledge) and logos (explanation)"* (Given, 2008: 245). Epistemology

has also been called “a study of how people or systems of people know things and how they think they know things” (Keeney, 1983: 13, cited in Ryan (2006: 15). Ryan (2006: 15) states, “...It is thus concerned with the nature of knowledge, what constitutes valid knowledge, what can be known and who can be a knower”. Epistemology is concerned with assumptions about the nature and the grounds of knowledge (Burrell & Morgan, 1979). Crotty (1998) states that the epistemological position adopted usually determines the nature of the research methodology and methods used.

Methodology focuses on how we obtain knowledge about the world (Guba & Lincoln, 1994). “Research methodology consists of the assumptions, postulates, rules, and methods—the blueprint or roadmap—that researchers employ to render their work open to analysis, critique, replication, repetition, and/or adaptation and to choose research methods” (Schensul, 2008: 516).

A clear illustration of the relationships between the terms and definitions of each of the terms ontology, epistemology, methodology, methods and resources is presented in figure 5-2.

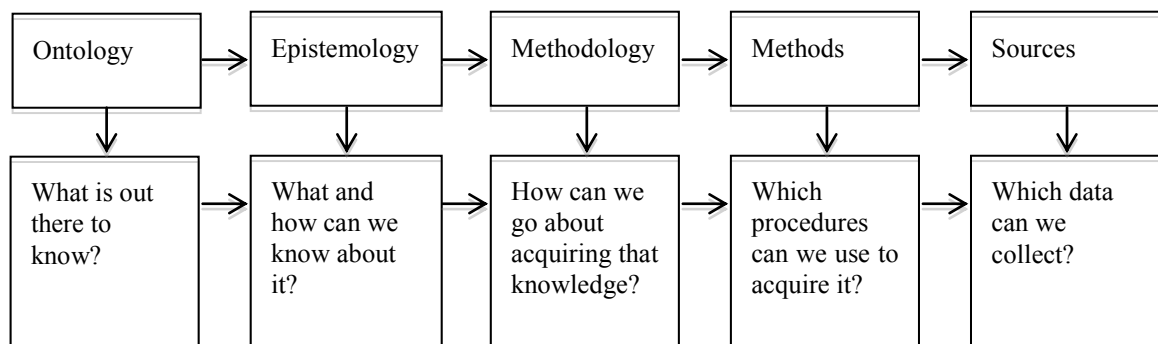


Figure (5-2). Ontology, epistemology, methods and sources. Source: Hay, 2002

This section discusses the differences between the postpositivist and interpretivist paradigms, this is followed by a discussion of the post-postivist research paradigm.

5.2.1 The positivist paradigm versus the interpretivist paradigm

According to Guba and Lincoln (1994), the major paradigms that structure and organise social science research are positivism, post-positivism, critical theory and constructivism or interpretation (table 5-1). Positivist and interpretive paradigms represent the two extreme points on the paradigm continuum (figure 5-3). Under the assumption that human nature is predicable or involuntary, the positivist stance views individuals as products of their environment, while the interpretivist stance believes that individuals create their environment (Putnam, 1983: 36). Putnam (1983: 41) indicates that the two stances involve different assumptions about the process of research. The positivist methodology focuses on an examination of regularities and relationships to universal laws, while the interpretivist concentrates on reasons why individuals create and interpret their world in a particular way. The rest of this section will include a brief description of each of these two paradigms.

Table (5-1). Basic beliefs (metaphysics) of alternative inquiry paradigms

Philosophical aspect	Positivism	Post-positivism	Critical	Constructive / Interpretivism
Ontology	Realist, naive Realism: real reality exists independent of humans. It is can be unproblematically understood, is measurable and operates according to fixed laws of a cause-effect form.	Critical realism: virtual reality, historically shaped by social, cultural and ethnic values, crystallises over time; humans are not confined to existing in a particular state.	Historical realism: virtual reality shaped by social, cultural and ethical values historically crystallises over time. Humans are not confined to existing in a particular state.	Relativist: reality is relative to observer, as there are many socially constructed realities that are not subject to any natural laws. Humans continuously construct and reconstruct their reality.
Epistemology	Dualism/ objectivism: the observer and the object do not affect each other. The aim of the inquiry is to establish cause-effect relationships between the objects of its study. Empirical testing results are assumed to reflect true explanation of object's aspects.	Modified Dualism Objectivism: Preference is given to critical tradition and critical community. The aim of the inquiry is explanation and prediction of knowledge. Findings are probably true but always subject to falsification.	Transactional/ Subjectivist: Preference for long-term historical and ethnographic studies. The aim of the inquiry is a critique and transformation of knowledge. Findings are value mediated.	Transactional/ Subjectivist: The observer and the object are interlocked. The aim of the inquiry is understanding and reconstruction of knowledge. Findings are thus created by the observer's interpretation and through the investigation process.
Methodology	Experimental/ manipulative: the inquiry process seeks to verify hypotheses established as facts or laws, and eliminate confounding factors so as to explain the phenomenon as it really is. The aim is to predict and control using empirical quantitative tests.	Modified/experiment al/Manipulative: hypotheses are initially assumed to be false; they are probable fact or laws. Inquiries are done in more natural settings and while collecting more situational data. Uses several methods that may include qualitative techniques.	Dialogic/ dialectical: the inquiry involves a dialogue between the investigator and participants to transform ignorance into more informed consciousness, initiating changes in the social relations and practices.	Hermeneutic/ dialectical: the inquiry involves a continuous argument that seeks to criticise, analyse and reanalyse. The aim is to reach a joint construction of a phenomenon by the parties involved.
Source: adapted from Guba and Lincoln (1994)				

The subjective-objective dimension

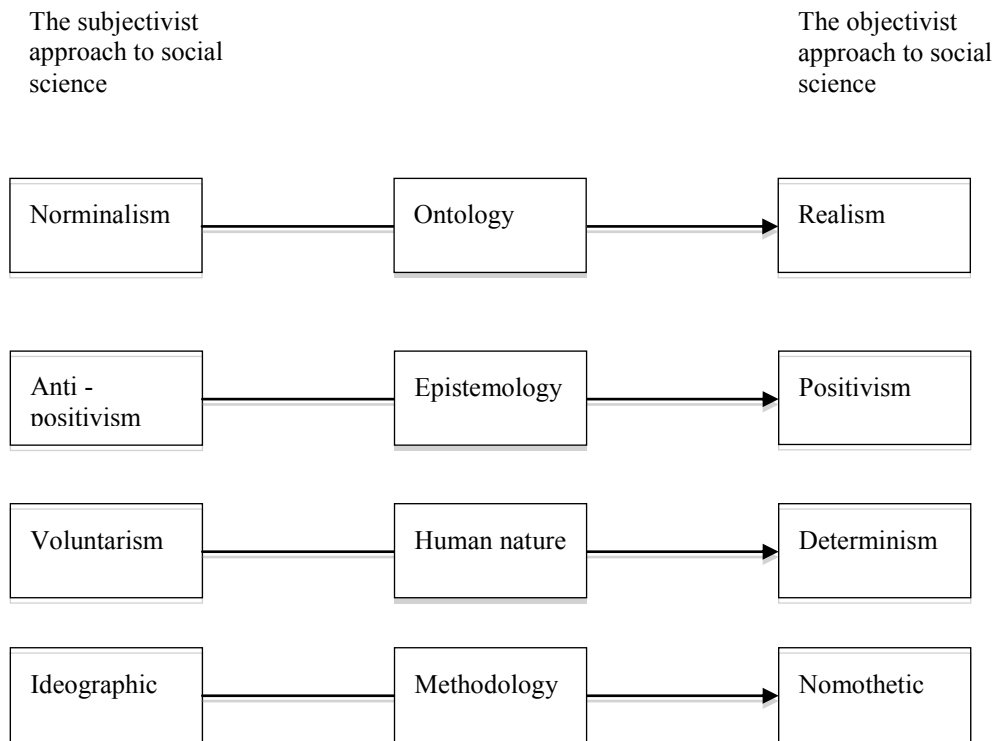


Figure (5- 3). Network of basic assumptions characterising the subjectivist-objectivist debate within social science. Source: Adapted from Morgan & Smircich (1980)

5.2.1.1 The Positivist research paradigm

Neuman (1994: 58) defines positivism as “*An organised method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity.*” The positivist stance believes that knowledge is observable and objective (Williams, 1998). A positivist paradigm is described by Easterby-Smith et al. (2002: 28–29) as including:

Independence: The observer must be independent from what is being observed. **Value-freedom:** The choice of what to study, and how to study it, can be determined by objective criteria rather than by human beliefs and interests. **Causality:** The aim of social sciences should be to identify causal explanations and fundamental laws that explain regularities in human social behaviour. **Hypothesis and deduction:** Science proceeds through a process of hypothesising fundamental laws and then deduces what kinds of observations will demonstrate the truth or falsity of these hypotheses. **Operationalisation:** Concepts need to be operationalised in a way which enables facts to be measured quantitatively. **Reductionism:** Problems as a whole are better understood if they are reduced into the simplest possible elements. **Generalisation:** In order to be able to generalise about regularities in human and social behaviour, it is necessary to select samples of sufficient size, from which inferences may be drawn about the wider population. **Cross-sectional analysis:** Such regularities can and must easily be identified by making comparisons of variations across samples.

Perry et al. (1999: 16–17) summed up the positivist paradigm as follows:

Positivists assume that natural and social sciences measure independent facts about a single apprehensible reality composed of discrete elements whose nature can be known and categorised. The objectives of research enquiry often include the measurement and analysis across time and context. The primary data collection techniques include controlled experiment and simple surveys, which are outcome orientated and assume natural laws and mechanisms, with the primary mode of research enquiry being theory testing or deduction.

Positivism emphasises the inductive hypothetical-deductive procedures involved in establishing and explaining patterns of behaviour (Barker et al., 2001). According to Winfield (1990) the major advantage of the positivist approach is that it is unprejudiced. However, some see the positivist approach as a poor and misleading approach to conducting social science research (Hirschheim, 1992).

Adopting a positivist approach in social science means that the researcher “believes that the methodological procedures of natural science may appropriately be applied to social science, and that its results can be expressed as laws or empirical generalisations similar to those developed in the natural sciences” (Walliman, 2005,: 203). As Guba and Lincoln (1994: 106) state, “Exclusion of meaning and purpose. Culture, attitude, and consumer behaviour cannot be separated from social reality there for they cannot be treated as objects which can be easily measured and tested. Human behaviour, unlike that of physical objects, cannot be understood without reference to meanings and purposes attached by human actors to their activities”. Positivists consider reality to be apprehensible and measurable with zero error, and use exact rigorous measures. This paradigm is not suitable for this research as it deals with variables in terms of complex, social and real life experience (Perry et al., 1999).

5.2.1.2 The interpretive research paradigm

Neuman (1994: 62) defines the interpretive paradigm as “The systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds”. The interpretive paradigm includes a variety of philosophical and sociological ideas including reflective, hermeneutic, phenomenological, qualitative, relativism, humanism, inductive, naturalistic, action research or ethnographic approaches (Ticehurst & Veal , 2000; Carson et al., 2001). Ticehurst and Veal (2000) state that the interpretivists usually see the world as socially constructed and subjective, and hold the assumption that there is no reality outside the individual’s perceptions. From that perspective, it is important for the researcher to listen to people who are being studied in order to understand their every day experiences and what is going on in a given situation (Mokhlis, 2006).

Research into the interpretive research paradigm is usually descriptive and holistic in nature. According to Neuman (1997: 68) the interpretive approach involves a systematic analysis of socially meaningful action through direct detailed observation of people in a natural setting in order to arrive at an understanding of and a way of interpreting how people create and maintain their social world. Unlike physical objects, human behaviour cannot be understood without reference to the meaning and purpose with which human actors associate with their activities (Moser, 1999).

Gultig et al., (1999: 80) state that interpretation has a local rather than a global orientation that is concerned more with the nature-bound frameworks of particular schools and the ways individuals understand and act in specific social contexts than with finding general laws or all-encompassing explanations. One of the drawbacks of the interpretivist approach is its inability to generalise its results. Thus, it cannot be used to generate generalisable findings about the whole population (Kratwohl, 1997).

5.2.2 Post-Positivist research paradigm

In this thesis the post-positivism paradigm of critical realism in particular is adopted. The following subsections are discussing the definition of the post-positivism paradigm, and its ontological and epistemological stance, the rationale of choosing the post-positivism paradigm, and the methodological implications of this paradigm choice in the method identification in this thesis.

5.2.2.1 Post-Positivism paradigm, and its ontological and epistemological stance

The specific research paradigm that the researcher decides to use helps him/her in structuring data collection and the overall research process (Carson et al., 2001). The continuum of research philosophies in social science is anchored by the interpretivist position on one side and positivism on the other, with others lying on a point on a continuum between the two (Ticehurst & Veal, 2000). As a response to criticisms to the positivist paradigm for its dualist objectivist assumptions, the post-positivist approach was introduced as a response to the need to overcome the challenges of positivism

(Guba & Lincoln, 1994). According to Ryan (2006: 22), “*The post-positivist emphasis on meaning and the relationship between language and meaning is addressed in the concept of discourse... Discourses ‘invite’ us to be human in certain ways or to respond to others in certain ways*”.

According to Ryan, post-positivist research has the following characteristics (2006: 12),

1) Research is broad rather than specialized – many different approaches appear to qualify as research; 2) Theory and practice cannot be kept separate. We cannot afford to ignore theory for the sake of ‘just the facts’; 3) The researcher’s motivations for and commitment to research are central and crucial to the enterprise; 4) The idea that research is concerned only with correct techniques for collecting and categorising information is now inadequate.

Post-positivism seeks to verify cause and affect relationships between hypotheses (Guba & Lincoln, 1994). However, it is different from positivist as post-positivism is also characterised by the assertion that there is no single correct method in science but that many methods exist (Hirschheim, 1992). Therefore, the approach emphasises the usage of multiple measures and observations, which might include both qualitative and quantitative techniques. According to Lincoln and Guba (1994), reality in post-positivism is assumed to exist but to exist only imperfectly, because of the intractable nature of phenomena. This is reflected in the post-positivist ontology which stresses that reality must be subject to the widest possible critical examination in order to facilitate apprehending it as closely as possible, and that replicated findings are probably true but always subject to falsification (Guba & Lincoln, 1994). Post-positivists reject the idea that individuals see the world perfectly or ‘as it really is’. For them, the observer is biased and observation can be affected, so to achieve objectivity, there is need for multiple perspectives (Hirschheim, 1992).

As this research is based on the post-positivist approach, its ontological position is that realities do exist but outside the researcher’s mind. This study is based on the belief

that real physical world exist beyond researcher's comprehension and knowledge. On the other hand, a social world also exists, which is influenced and shaped by our knowledge, desires and experience. In this study the researcher adopts the position that one can only apprehend reality to a limited extent. Therefore, researcher cannot obtain an entire picture of the phenomenon under study. In this study the researcher agrees that all type of studies involve some degree of subjectivity (Hammersley, 1992). But contrary to interpretivism, the researcher does not reject the existence of the real world. The researcher distances the work from the radical positive position where there is only one truth and from interpretivist position in which the truth is a matter of argumentation and convention and not correspondence with a reality.

The epistemological position of the current study is situated between positivist and interpretivist paradigms. This study can be considered as normative as it is not emphasising knowledge creation for its own sake, but as instrumental means of contributing to a better understanding of customer behaviour in the use of Internet-only banks. This epistemological stance distinguishes between human cognition (interpretivist) and physical reality (positivist).

5.2.2.2 Rationale of choosing the post-positivism paradigm

Post-positivism is often adopted in the field of social sciences. It was developed to overcome the disadvantages of positivism (Guba and Lincoln, 1994), Post-positivists argue that the world is independent of researchers and open to different perceptions, but at the same time there is a real world that existence and needs to be discovered (Easton, 1998). In other words, post-positivists emphasise the importance of the use of multiple measures and observations, as they believe that each individual method possess different types of errors. Therefore, triangulation needs to be applied across these multiple methods to get a better picture of what is happening in reality (Trochim, 2006 Sweeny et al., 2000; Godfery & Hill, 1995).

In the positivist tradition, the researcher is seen as independent to the object of the research and does not influence it. It is hard to agree with this view as social and political interests normally drive science and finance it (Yousafzai, 2005). Many researchers support a paradigm shift from positivism, to post-positivism's critical realism, which admits that reality cannot be perfectly understood (Winfield, 1990). Walsham (1993), argues that critical theory emphasises the role of the interpretive approach for research that has a social content. Trochim (2006), state that there is a move toward post-positivism "*where many of those stereotypes of the scientist no longer hold up*". Cupchik (2001) believe that phenomena are multidimensional as they "*cut across the physical, social, and personal world*". For Cupchik (2006), social phenomena are "*contextualised events*", which make them hard to understand isolated from their social and political surroundings, as isolating them from context will not help in understanding them correctly. He stated that phenomena "*are processes and not essences. In the social world, are difficult to observe because they are not restricted to sense-data but involve the application of judgement*".

Creswell (1994) suggests the nature of the research topic as a criterion for choosing between deductive and inductive approaches. A topic on which there is a wealth of literature is one from which research can define a theoretical framework and a hypothesis which is suitable for deduction. But with research topic that is new, and about which there is little existing literature it may be appropriate to work inductively. In deciding whether to use one or the other, or both of the paradigms, it has been suggested (Patton 1990; Creswell 1994; Maxwell, 1996) that a number of factors should be considered, including the researcher's own beliefs about the appropriate way to study human behaviour, the researcher questions and the rigour of the research, which includes both the universality and the verifiability of results.

This study is investigating technology acceptance in a new context (Saudi Arabia), which has not been studied in depth by previous information technology (IT) researchers. One of the aims of this study is to gain more understanding of how religious

teaching influence consumers' IT acceptance. This study aims to further the understanding of the potential of Muslim consumers' acceptance of Internet-only banks, a type of banking that has not been introduced to developing countries banking markets yet. Although the positivist stance was adopted by several researchers to study IT acceptance behaviour (e.g., Davis, 1989; Igbaria et al., 1995; Venkatesh & Morris, 2000; Venkatesh & Davis, 2000), it has also been adopted by several studies to investigate culture on consumers behaviour (e.g., Loch et al., 2003; Hasan & Ditsa, 1999; Mokhlis, 2006). Venkatesh et al. (2013), believe that positivist scientific approach is not enough to explain the complex interrelated factors that may influence individuals when they about to take their information technology (IT) use and adoption decision. Therefore, there is a real need for more interpretive understanding of the phenomenon under study. The present research can fall logically into the post-positivism approach, which is positioned between positivism and interpretivism (Lincoln & Guba, 1994). In this study, the choice of research approach is determined by the nature of the problem being addressed. This research investigates the factors that influence consumers' intention to adopt Internet-only banks. The aim is to test the influence of religiosity, values and various other factors on consumers' adoption of new technology. There is a shortage of literature investigating values and religiosity's influence on consumers' technology adoption behaviour. Little research has yet considered how consumers with different levels of religiosity and different values construct adopt new forms of technology such as Internet-only banks. Moreover, one of the questions this study is aiming to answer is how religious teaching could shape consumers attitudes and behaviours to technologies. Quantitative methods are not enough to provide an in-depth explanation that allows the researcher to obtain an answer to such a question. On the other hand, this research aims to test and validate the factors that have been studied in the previous literature but in a new context. Thus, the qualitative methods are not enough to support the researcher in achieving that. Therefore, the combines both quantitative and qualitative techniques are used within this study.

5.2.2.3 Implications of the post-positivist paradigm in research methodology

Campbell (2007) argues that truth can be approached using different methods, and he sees post-positivism as calling for the use of mixed method. *“Paradigm issues are a major concern in mixed method research”*, as it is considered as a first step to justify a researcher decision to adopt mixed methods (Hall, 2013: 71). Brewer and Hunter (1989 : 153), state that the *“epistemological questions about how one knows, and the appreciation of multiple ways of knowing are the core multi-method research, not a reified, abstract unity of what one knows”*. They believe that merging methods as in the mixed method *“unites the humanities and the science”*, and that it reflects the post-positivist perspective. Pickard (2012) refer to the combination of both qualitative and quantitative methodologies as post-positivism and he state that the use of such methodology has increased considerably in Library and Information Science (LIS) researches. According to Trochim (2006) and Cupcik (2001), critical realism is a common form of post-positivism. Trochim (2006) states that the critical realist emphasises the importance of observation and multiple measures, and as different methods may contain error, triangulation across these different methods is needed to get better understanding of what is happening in reality. In Alvesson and Sköldbberg (2009: 17) opinion, *“critical realism bridges quantitative and qualitative studies”*. Critical theory *“suggests that historical and other mechanisms shape reality and that researchers are transformative intellectuals with ability to change the social order”* (Bisman, 2010: 5). Modern critical realism is considered one form of post-positivism (Bisman, 2010). Both qualitative and quantitative methodology is accepted within critical realism (Healy and Perry, 2000). The critical realist paradigm *“relies on multiple methods as a way of capturing as much of reality as possible”* (Denzin and Lincoln, 1998: 9).

Mixed methods methodology is consistent with the post-positivist paradigm, as Bisman (2010: 9) explained, *“Critical realist maybe initially qualitative and inductive, enabling issues, propositions and models to developed... followed by the hypothetic-*

deductive approach...to unearth knowledge concerning broader mechanisms and tendencies". Bisman (2010: 13) adds, *"within a critical realist ontology and epistemology, triangulation and critical mutiplism are usually reflected in the utilization of multiple data sources and multiple methods, and in particular the capacity to use both quantitative and qualitative methods"*. What Bisman has illustrated represents the core of the mixed methods approach. Pickard (2012: 11) refer to the concept of methodological dualism in the use of qualitative and quantitative is accepted practice in post-positivist research. Methodological dualism is much explains the mixed method approach. *"Mixed methods fall within the post-positivist paradigm. It is a combination of methodologies to address the same overarching research question but can take many forms"* (Pickard, 2012: 19). Moreover, Giddings (2006: 195) argued that mixed method is a *"pragmatic research that fits most comfortably within a post-positivist epistemology"*. As the *"post-positivist diverge from positivist significantly: they tend to argue that reality is socially and culturally constructed and researcher objectivity is impossible... mixed method research to date primarily reflects post-positivist assumptions"* (Giddings and Grant, 2007: 5–12).

Venkatesh et al. (2013), suggest that *"critical realism is a particularly suitable paradigmatic choice for mixed methods information systems (IS) research because of dynamic nature and contextual richness of the IS discipline... that can be adequately examined and theorised using a variety of methods in the same research study"*. According to Guba and Lincoln (1994), post-positivist methodology emphasises critical multiplism as a way of assessing hypotheses. For them, post-positivist methodology redresses some of the problems of positivism by carrying out inquiries in more natural settings, and while collecting more situational data to investigate the meaning that people ascribe to their actions.

This study investigates cultural issues in consumer behaviour within Internet-only banks. The phenomenon under investigation is considered from different angles, such as cultural influences, consumer perceptions and human behaviour. Therefore, the

study context comprised two main disciplines: cultural and electronic consumer behaviour. Krathwohl (1997) suggests that the quantitative research methods tend to support a positivist epistemology. The qualitative approach favours more a constructive/interpretive epistemology. For Krathwohl (1997), the use of a combination of techniques from the quantitative and qualitative is particularly important in social science research. The need for multiple research techniques is rooted in post-positivist ontology, wherein the observer and the observed phenomena are expected to affect each other. Because the measurements are fallible, post-positivism emphasises the importance of multiple measurements and observations (Hirschheim, 1992).

In this research, it is assumed that when investigating human behaviour and attitudes, it is most useful to use a variety of data collection methods. By using different sources and methods at various points in the evaluation process, the evaluation can build on the strength of each type of data collection and minimise the weaknesses of any single approach. A mixed method is used for this research, particularly the use of ‘triangulation’.

In this research the induction characteristic of qualitative methods is a requirement. Flexibility of information collection is allowed in qualitative research and a semi-structured exploration of issues in less structured format, with a smaller number of respondents than with quantitative methods (De Ruyter & Scholl, 1998). The depth and detail of qualitative data required to understand complex phenomena can be obtained only by getting psychologically close to the phenomena under study. “*The closer the researcher can get to the phenomenon, the clearer it is understood*” (Carson & Coviello, 1996: 55). On the other hand, quantitative research is used in this research because of its larger samples and statistical levels provide statistical generalisation (Yin, 2003). Therefore, qualitative and quantitative research methods are used in triangulated and a complementary fashion in this research.

5.3 Mixed methods methodology

Any methodological consideration of the development of a framework should regard the investigated phenomenon's nature first, and then address the question of how a particular method could be adequate to describe, explain or understand it. This section discusses the mixed methods methodology, it starts with review of mixed methods research, and then it presents the rationale of using the methodology in this thesis. This is followed by discussion of the mixed methods purposes and designs. The section concludes with a discussion of how the mixed-methods approach is applied in this study.

5.3.1 Review of mixed methods research

Tashakkori and Creswe (2007: 4) define mixed methods in a rather a broad way by stating that,, *“mixed methods is research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry”*. On the other hand, Johnson and Onwuegbuzie (2004:17) define mixed methods research as: *“The class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study”*.

Hair et al. (2000) emphasise that the *“potential disadvantages of survey design are related to their limited use of probing questions... consequently, the data might easily lack the detail or depth that research desires for addressing the initial research problems... qualitative techniques allow the researcher to collect in-depth data about subjects, attitudes, beliefs, emotions, and perceptions”*. Therefore, the use of a combination of both techniques is particularly important in social sciences research. As Krathwohl (1997) argues, combining methods not only can compensate for the flaws of one method with the strengths of another, but can also provide different perspectives and details.

The choice of multiple research techniques is supported by various studies (Winfield, 1990; Galliers, 1992; Hirschheim, 1992; Brewer & Hunter, 2006). Using a mixed methods design can create unlimited advantages for the research. According to Maxcy (2003: 59) the main advantages of the mixed method approach are that it: provides more comprehensive evidence for studying a research problem, it helps researchers answer questions that cannot be answered by quantitative or qualitative approaches alone, it encourages researchers to collaborate across the sometimes adversarial relationship between qualitative and quantitative researchers, it encourages the use of multiple worldviews or paradigms rather than the typical association of certain paradigms for quantitative researchers and others for qualitative researchers, and it encourages us to think about a paradigm that might encompass all of qualitative and quantitative research, such as pragmatism, or using multiple paradigms in research.

According to Rocco et al. (2003: 19), there are two major positions of mixed methods approach, which are “*the dialectic and pragmatic*”. “*The pragmatist position calls for using what ever philosophical and or methodological approach work for the particular research problem under study*” (Tashakkori and Teddlie, 1998,: 5). In contrast, the dialectic position (Maxwell and Loomis, 2003), call for “*explicitly seeking a synergistic benefit from integrating both positivist and constructivist paradigms*”.

One of the purposes of mixed methods is triangulation, data collection triangulation refers to the collection of information from multiple sources, but is aimed at corroborating the same facts or phenomena (Yin, 2003). Researchers in the field of diffusion of innovation stress the importance of triangulation. “*There are two major advantages to choosing to use multiple methods in the same research project. First, different methods can be used for different purposes in a study; the second advantage of using mixed methods is that it enables triangulation to take place*” (Saunders et al., 2007: 118). Denzin (1978: 291) defined triangulation as “*the combination of methodologies in the study of the same phenomenon.*”

Triangulation plays an important role in validating research results. Campbell and Fiske (1959) have argued that more than one method should be used in the validation process. There are various uses of and meanings of triangulation including “*within-method*” triangulation (Jick, 1979). In this method, the researcher often uses “*multiple techniques within a given method to collect and interpret data*”. While using the “*between (or across) methods*” triangulation the researcher uses two or more distinct methods to validate the results. The role of these two triangulation methods in assessing validity and the reliability is distinctive, and the “*within-method triangulation essentially involves cross-checking for internal consistency or reliability while between-method triangulation tests the degree of external validity*” (Jick, 1979: 24).

Triangulation can be accomplished in several ways. According to Janesick (2000: 391) there are five types of triangulation, namely data, investigator, theory, methodological and interdisciplinary triangulation. The uses of different type of triangulation for the purpose of the thesis are as follows:

Data triangulation: the use of variety of data sources in a study. The data for this thesis were collected from different sources, such as literature reviews, interviews, and surveys; investigator triangulation: the use of several researchers or evaluators. This type of triangulation has not been applied in the current research, as it has been conducted by one researcher. Theory triangulation: the use of multiple theoretical perspectives to interpret a single set of data. Human values theory and technology acceptance theory were combined to study Muslim consumers’ technology acceptance behaviour. Methodological triangulation: the use of multiple methods to study a single problem. Both qualitative and quantitative methods were used in this research. Both within and cross method triangulation are employed in this thesis. In the qualitative study several qualitative data collection methods have been used (e.g., semi-structured and in-depth interviews). Cross method triangulation was accomplished through comparing the qualitative study with those of the quantitative study. Multidisciplinary Triangulation: the use of investigation of issues related to more than one discipline. This thesis is

multidisciplinary and constitutes a form of hybrid research in the field of cultural consumer behaviour and e-commerce.

5.3.2 Mixed methods purposes and designs

Mixed method methodology is implemented in research through different strategies and for different purposes. This section is devoted to discussing some of the mixed method strategies and purposes. Combining methods is challenging and should only be undertaken when there is a specific reason to do so (Creswell and Clark, 2011: 61).

Bryman (2006) provided a detailed list of rationales behind researchers' use of mixed methods (see table 5-2). His list offered a useful, more detailed examination of researchers' reasons and practices (Creswell and Clark, 2011). On the other hand, Venkatesh et al. (2013) suggested "*that the mixed methods approach should serve one or more purposes beyond the core purpose of the research methodology*". Table (5-2) presents the various purposes of mixed methods research as suggested by Venkatesh et al. (2013) and Bryman (2006).

Venkatesh et al. (2013).		Bryman (2006: 106–107).	
Purposes	Description	Purposes	Description
Complementarily	Mixed methods are used in order to gain complementary views of the same phenomena or relationships.	Triangulation or greater validity.	Refers to the traditional view that quantitative and qualitative research might be combined to triangulate findings in order that they may be mutually corroborated. If the term was used as a synonym for integrating quantitative and qualitative research, it was not coded as triangulation.
Completeness.	Mixed methods designs are used to make sure a complete picture of a phenomenon is obtained.	Offset .	Refers to the suggestion that the research methods associated with both quantitative and qualitative research have their own strengths and weaknesses so that combining them allows the researcher to offset their weaknesses to draw on the strengths of both.

Venkatesh et al. (2013).		Bryman (2006: 106–107).	
Purposes	Description	Purposes	Description
Developmental.	Questions for one strand emerge from the inferences of a previous one (sequential mixed methods), or one strand provides hypotheses to be tested in the next one.	Completeness.	Refers to the notion that the researcher can bring together a more comprehensive account of the area of enquiry in which he or she is interested if both quantitative and qualitative research is employed.
Expansion.	Mixed methods are used in order to explain or expand upon the understanding obtained in a previous strand of a study.	Process.	Quantitative research provides an account of structures in social life but qualitative research provides sense of process.
Corroboration/ Confirmation.	Mixed methods are used in order to assess the credibility of inferences obtained from one approach (strand).	Different research questions.	This is the argument that quantitative and qualitative research can each answer different research questions but this item was coded only if authors explicitly stated that they were doing this.
Compensation.	Mixed methods enable compensating for the weaknesses of one approach by using the other.	Explanation.	One is used to help explain findings generated by the other.
Diversity.	Mixed methods are used with the hope of obtaining divergent views of the same phenomenon.	Unexpected results.	Refers to the suggestion that quantitative and qualitative research can be fruitfully combined when one generates surprising results that can be understood by employing the other.
		Instrument development.	Refers to contexts in which qualitative research is employed to develop questionnaire and scale items for example, so that better wording or more comprehensive closed answers can be generated.
		Sampling.	Refers to situations in which one approach is used to facilitate the sampling of respondents or cases.
		Credibility.	Refers to suggestions that employing both approaches enhances the integrity of findings.

Venkatesh et al. (2013).		Bryman (2006: 106–107).	
Purposes	Description	Purposes	Description
		Context.	Refers to cases in which the combination is rationalised in terms of qualitative research. providing contextual understanding coupled with either generalisable, externally valid findings or broad relationships among variables uncovered through a survey.
		Illustration.	Refers to the use of qualitative data to illustrate quantitative findings, often referred to as putting ‘meat on the bones’ of ‘dry’ quantitative findings.
		Utility or improving the usefulness of findings.	Refers to a suggestion, which is more likely to be prominent among articles with an applied focus, that combining the two approaches will be more useful to practitioners and others.
		Confirm and discover.	This entails using qualitative data to generate hypotheses and using quantitative research to test them within a single project.
		Diversity of views.	This includes two slightly different rationales: namely, combining researchers’ and participants’ perspectives through quantitative and qualitative research respectively, and uncovering relationships between variables through quantitative research while also revealing meanings among research participants through qualitative research.
		Enhancement or building upon quantitative/qualitative findings.	This entails a reference to making more of or augmenting either quantitative or qualitative findings by gathering data using a qualitative or quantitative research approach.

Mixed methods can be implemented in the research in different designs, Johnson and Onwuegbuzie (2004) provided a matrix for illustrating the nine possible combinations of the mixture. Figure (5-4) shows four combinations for the use of mixed method research. In figure (5-4) “quan” stands for quantitative and “qual” for qualitative. Capital letters denote high priority or weight. The sign “+” stands for concurrent, and “→” stands for sequential.

Creswell (2012) also described six mixed methods designs: 1) sequential explanatory design (“QUAN→qual”); 2) sequential exploratory design (“QUAL→quan”); 3) sequential transformative design (move between qualitative and quantitative without clear priority); 4) concurrent triangulation strategy (“QUAN + QUAL”); 5) concurrent nested strategy (qualitative embedded in quantitative, or vice versa); and 6) concurrent transformative strategy (qualitative and quantitative methods used concurrently without clear priority).

	Concurrent	Sequential
Equal Status	QUAL + QUAN	QUAL → QUAN QUAN → QUAL
Dominant Status	QUAL + quan QUAN + qual	QUAL → quan qual → QUAN QUAN → qual quan → QUAL

Figure (5-4), A matrix of mixed methods design (Johnson & Onwugbuzi, 2004: 22).

The most widely used designs are: concurrent and sequential mixed methods research design (Creswell et al., 2012). In the concurrent design, qualitative and quantitative data are collected and analysed in parallel and then compared for complete understanding of a phenomenon. In contrast, in the sequential design qualitative and quantitative data are collected and analyses in different phases and “*each is integrated in a separate phase*” (Venkatesh et al., 2013).

5.3.3 Rationality for using mixed methods

The selection of the research methods employed in this research is driven to the selection of the research methodology based on the ontological and epistemological position of the present research as outlined in section (5.2.2.1); it also driven by the research nature to be investigated and by the research question.

Mixed methods research has been considered by some researchers (Ridenour and Newman, 2003; Teddlie and Tashakkori, 2009) as a third methodological paradigm. Other researchers (Denzin, 1978; Jick, 1979; and Mingers, 2001) called for a combination of research methods especially the triangulation of qualitative and quantitative data. Such combination will develop a deeper understanding of a phenomenon. Venkatesh et al. (2013), suggest that mixed methods should be used to help the researcher “*find theoretically plausible answers to his or her research questions*”. And if the researcher can overcome “*the cognitive and practical barriers associated with conducting mixed method research*”. They, encourage researchers in the fields of information system (IS) studies to adopt the mixed methods approach as they believe such approach will provide “*rich insights into various phenomena and develop novel theoretical perspectives*”. They assert that mixed methods design strategies provide a powerful mechanism for IS researchers to deal with situations which they often encounter where “*existing and findings do not sufficiently explain or offer significant insights into a phenomenon of interest*”, in an environment which that can be described as changing rapidly (Venkatesh et al., 2013).

In attempting to understand the motivators and barriers to the use of Internet-only banks, this study investigates the existing reality and also questions the prevalent social construction of reality. The qualitative and quantitative approaches offer complementary views of the social world. Qualitative methods are typically used by social sciences for exploratory studies. Researchers often use such method to develop a deep understanding of the phenomenon and/or to inductively generate new theoretical insights (Walsham, 2006). In the other hand, quantitative methods typically been used by social sciences for confirmatory studies. A mixed methods research has the ability to address both exploratory and confirmatory purposes as it combine both qualitative and quantitative methods (Venkatesh et al., 2013).

The use of mixed methods is common in e-commerce studies. Many researchers in the field have used them. E-commerce researchers have utilised qualitative methods to

“*unearth factors*” related to consumers’ perceptions of it (Venkatesh et al., 2013). For example, Keeney (1999) used interviews to explore the pros and cons of e-commerce, and followed them with a quantitative study to test theoretical model of e-commerce. Pavlou and Fygenon (2006) use mixed methods research to investigate e-commerce adoption. They started their research with open-ended questions to unearth the factors that consumers consider when making their e-commerce adoption decision, and then included the factors in a research model which they tested in the same study.

Given that Internet-only banks are considered as a new method of banking, one which is surrounded by some ambiguity and many concerns related to privacy, security and website capacities as Internet-only banks reflect a sort of banking methods where tangible element is eliminated. Although the existing theories in information technology (IT) acceptance can be used to explain consumers acceptance of IB, those theories are not capable of reflecting which factors are the most important to banking consumers in their adoption of Internet-only banks. Moreover, the existence IT acceptance theories used by previous researches (discussed in chapter two of this thesis) are not comprehensive enough to reflect the factors that may influence consumers from different cultural contexts in their IT adoption decision. Moreover, as has been discussed in chapter two, section (2.4), each IT acceptance theory has its shortcomings. Therefore, to improve the ability of IT acceptance theories we can either integrate two or more theories and/or to introduce new factors to these theories. An exploratory qualitative study at the outset is needed to be able to decide which factors from the existing theories should be integrated to explain consumers’ IT acceptance or to decide which new factors should be included. This qualitative study can offer a rich mechanism to discover additional factors that may have been ignored or understudied by previous literature in the field of (IB).

One of the advantages of the mixed methods approach is its capability of providing the researcher with verity of founding that may sometime complement or contradict each others, Venkatesh et al. (2013) state, “*When conducting mixed methods*

research a researcher may find different (e.g., contradicting and complementary) conclusions from the quantitative and qualitative stands. Such divergent findings are valuable in that they lead to a re-examination of the conceptual framework and the assumptions underlying each of the two stands of mixed methods research...such divergent and/or complementary view provide an opportunity to discover, develop, extend, and test a substantive theory of IS adoption”.

Not all research subjects are amenable to the mixed methods approach. The decision on using mixed methods should be driven by the research objectives, context and questions (Creswell and Clark, 2007; Teddlie and Tashakkori, 2009). In the field of IS, Venkatesh et al. (2013), imply that “*researchers should employ a mixed methods approach only when phenomenon for which extant research is fragmented, inconclusive, and equivocal*”. They also suggest that the context of the phenomenon “*that should drive the selection of methodology*”. If the study is to be conducted in a context different from the context in which the “*theoretical perspective was developed*”, they suggest the use of the mixed methods approach as the use of it may “*unearth factors that are not typically common in developed country in the west*”. Therefore, a mixed methods approach allows the researcher to further investigate and be able to pinpoint any variables which may be ignored or may not have received enough discussion in previous studies which were applied in different context. As has been discussed above in this section, most previous studies in the field of e-banking in Eastern countries rely on using IT acceptance models developed and validated in Western countries. These studies are often suffer from a lack of consideration of cultural provisions (Al-Mudimigh et al., 2001), they also lack of “*a theoretical framework for cultural values identification*” (Aldraehim, 2013).

As mentioned above in this section, mixed method is a common practice in the IT adoption studies. It usually used by researchers either to exploratory or to confirm the theoretical framework (Venkatesh et al., 2013). For example, Duedahi et al. (2005) used the mixed methods approach in adopting a model of IT competence to examine business managers’ adoption of IT competencies. Although they were using a validated and well-

developed model, they still conducted a mixed method research when they used the model in Norwegian context. They conducted interviews and distributed a questionnaire in several organisations in order to customise the model of IT competence to suit the Norwegian context.

Denscombe (2008: 270) refers to the mixed methods approach as “*viable alternative to quantitative and qualitative paradigms*”. Denscombe (2008: 272) mentioned that mixed method could be used in different ‘*typologies*’; these ‘*typologies*’ mean that the method could be used a) to obtain a complete picture through combining information from ‘*complementary*’ data sources, b) to “*improve the accuracy of their data*”, or c) as a means of avoiding biases that may result from using a single method, and sometimes d) as “*a way of developing the analysis and building on initial findings*”. and finally e) “*as an aid to sampling*”.

The current study relies on the triangulation of qualitative methods with quantitative methods. Some researchers argued that qualitative and quantitative research derives from different ontological and epistemological traditions (e.g., Bryman, 2001). However, Flick (2002: 25), has adopted a more pragmatic stance where he accepts that much can be gained by combining the strength of these different approaches. He argues, “*different research perspectives may be combined and supplemented*”. Thus, the argument for mixed method is that it enhances confidence in findings.

The mixed methods approach is suitable for current study for three reasons. The first reason is that the study of customer behaviour in regard to Internet-only banks is still under consideration, as little structured fieldwork and no generally accepted theory or framework are available in the IB literature (Yousafzai, 2005: 120). Although the field of IB has received considerable attention through the last 20 years, no theory about consumers’ adoption of the extreme type of IB, which often referred to as branchless, virtual or Internet-only banking has been established yet.

The second reason is that although TAM, one of the established models in technology acceptance, has received recognition in IS, some researchers call for more qualitative interrogation to enhance TAM. For example, Wu (2012), considered TAM constructions as black boxes and argued that “*methodological pluralism*” is necessary to further our understanding of such constructions and that will improve our understandings of consumers’ acceptance and utilisation of technologies. In Wu’s opinion the move to a more subjective understanding of consumers’ technology acceptance will unveil the hidden reasons of consumers’ resistance to using technologies. The technology acceptance studies were dominated by the positivist tradition for a long time. “*Located within the positivist paradigm, TAM studies generally assume that system features and user characteristics are static and independent of contexts*”, which leads to the conceptualisation of TAM constructions “*in closed surveys as fixed, transferrable and quantifiable*” (Wu, 2012). Understanding users is the cornerstone of technology acceptance and implementation. Pickard (2012), states that it is important for systems designers and service providers to obtain “*contextual information*” related to their users. In his opinion this will allow them to provide and design services and systems that will “*function efficiently and effectively within those context*”. Pickard (2012) criticises the abstract models by referring to their inability to provide rich insight into human behaviour. Therefore, there is a need to move further for more subjective studies in order to gain more understanding of IT users and developed IT acceptance models that are more capable of reflecting the user’s human nature rather than concentrating on the IT characteristics as most of the current models do.

The third reason is that the aims and question set for the current research, together with the underlying ontological and epistemological paradigm adopted in this study, which is post-positivist critical realist, called for the use of qualitative methodology to explore relationships between variables in the study of consumers. Internet-only banks acceptance behaviour and the use of the quantitative methodology to produce more broadly based conclusions are useful for confirming the findings of this research.

For the reasons stated above, the mixed method approach is found appropriate for addressing the research questions and offers the potential to investigate well Muslim consumers' acceptance of Internet-only banks.

5.3.4 Applying a Mixed methods approach in this study

In this research it is believed that the mixed method design will enhance the quality of the results of the study. Therefore, the mixed method is used in the current research in order to permit a combination of qualitative and quantitative methods, particularly the use of “triangulation”.

The convergent design began as early as the 1970s and can be described as “*the most common approach used across disciplines*”. It was “*initially conceptualized as a “triangulation” design where the two different methods were used to obtain triangulated results about a single topic*” (Creswell and Plano Clark, 2011: 77). This design is known by several names, including convergence model (Creswell, 1998), simultaneous triangulation (Morse, 1991), parallel study (Tashakkori & Teddlie, 1998), concurrent triangulation (Creswell, Plano Clark, et al., 2003), and convergent design (Creswell and Plano Clark, 2011). In convergent design the researcher “*collects and analyzes both quantitative and qualitative data during the same phase of the research process and then merges the two sets of results into an overall interpretation*” (Creswell and Plano Clark, 2011: 77).

Morse (1991: 122) describe the purpose of the concurrent triangulation design as “*to obtain different but complementary data on the same topic*” to best understand the research problem. Moreover, this design has the advantage of bringing together the strengths and overcome the weaknesses of quantitative and qualitative methods (Patton, 1990). It is also useful in allowing the researcher to triangulate the methods through comparing and contrasting the quantitative statistical results with qualitative results for validation and corroboration (Creswell and Plano Clark, 2011: 77). This design also,

allows a synthesis of complementary quantitative and qualitative results to develop a more complete understanding of a phenomenon, and compare multiple levels within a system (Creswell and Plano Clark, 2011: 77). Creswell & Clark (2011: 77) give several reasons that can motivate the researcher to use the concurrent triangulation design:

First, the researcher has limited time for collecting data and must collect both types of data in one visit to the field. Second, the researcher feels that there is equal value in collecting and analysing both quantitative and qualitative data to understand the problem. Third, the researcher has skills in both quantitative and qualitative methods of research. Fourth, the researcher can manage extensive data collection and analysis activities. In view of this, this design is best suited for team research or for the sole researcher who can collect limited quantitative and qualitative data.

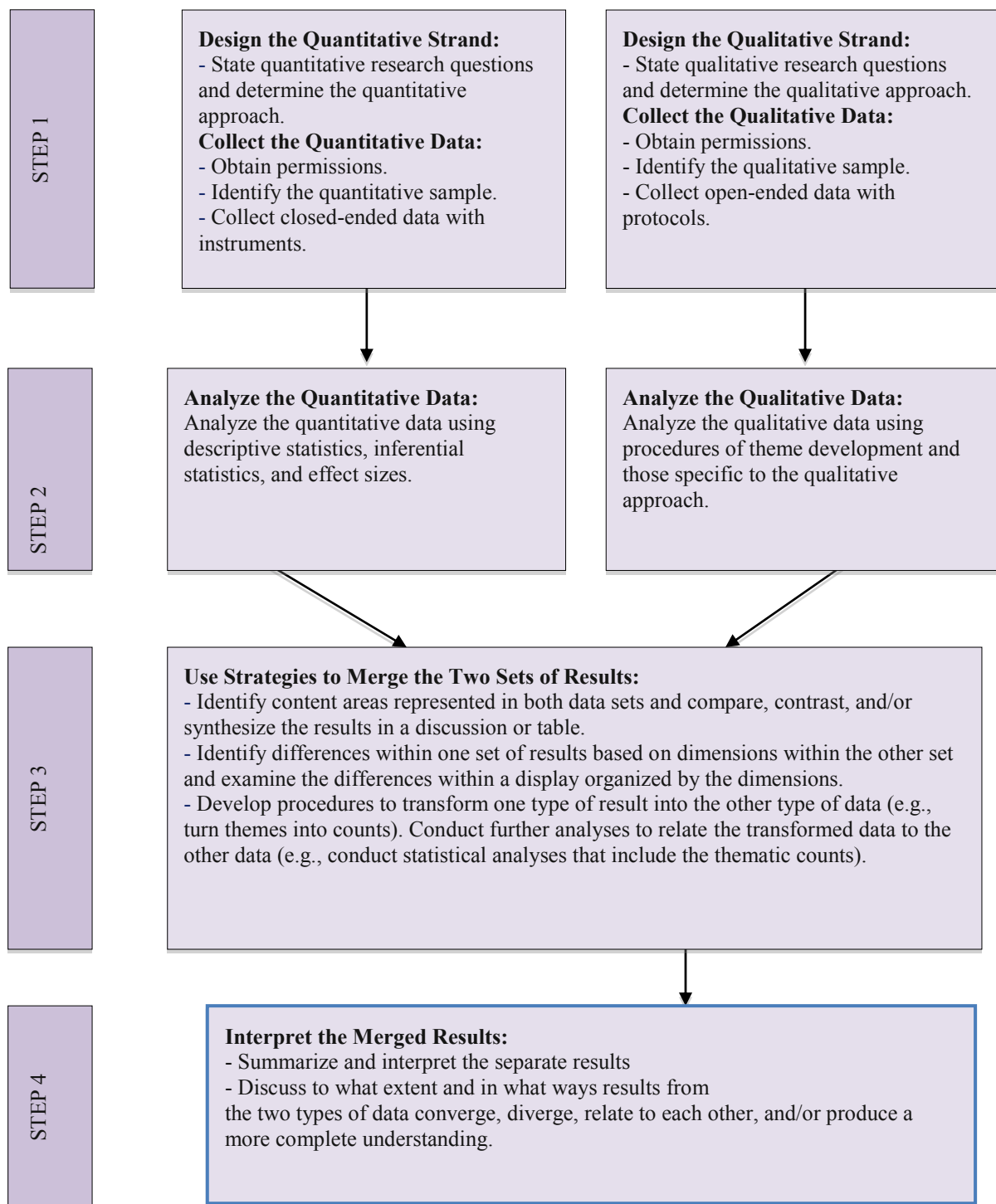


Figure (5-5). Flowchart of the basic procedures in implementing a convergent design, from Creswell and Clark (2011: 79).

In order to employ the concurrent triangulation design in research, researcher should follow some procedures. These procedures are described by Creswell and Plano Clark (2011) and illustrated in figure (5-5).

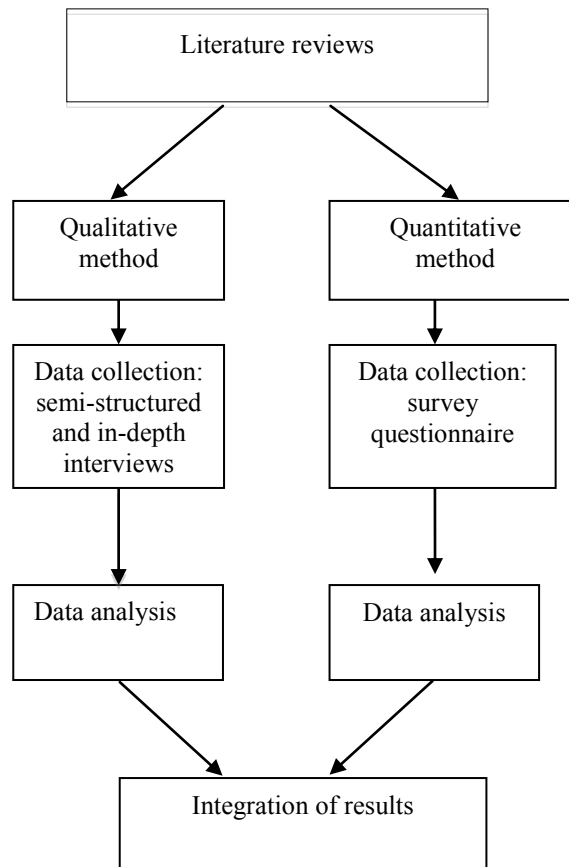


Figure (5- 6). The concurrent mixed method design for this study.

In this study the triangulation of the results of the qualitative and quantitative study aims to enhance the validity of the research results. In addition the use of the Concurrent mixed method design aim to gain fuller “*understanding of the research problem and/or to clarify a given research result*” (Greene et al., 1989: 259), as the results of both methods complement each other. This will help the researcher to obtain a

complete picture of the research problem. In addition, the use of qualitative and quantitative methods together in this study allows the researchers to offset their weaknesses and to draw on the strengths of both (Bryman, 2006).

Unlike the original concurrent triangulation design suggested by Creswell and Plano Clark (2011), the mixed methods design implemented in this study was modified to reflect the influence of the qualitative study on the quantitative study. The in-depth interviews results along with the literature review results were used to determine the factors that are included in the research model in chapter eight of this thesis.

As have been illustrated in figure (5-5), in the concurrent triangulation design the collection of qualitative and quantitative data is conducted at the same time. However, the analyses of the data sets obtained from each method are done separately and independently from each other, because the results of one method did not determine the design of the other method in this type of mixed method design.

In the current research the mixed method research was conducted as follows. First, the researcher works on the qualitative data collection. In the qualitative study the researcher conducted interviews in order to explore the current situation and identify the factors that impact Internet-only bank adoption. There are two types of interviews are used in the qualitative study of this research. The first type is the religious scholars' semi-structured interviews. These interviews aim to answer one of the study questions, : how does religious teachings influence Internet-only banks acceptance? Although the issue of the relation between religion and technology has been investigated quantitatively by some researchers (Tansuhaj et al., 1991; Barnes, 2009), those researchers were interested in understanding the influence of the individual's religious affiliation in his/her adoption of IT. Not enough investigation was done to understand how the religious teachings might create boundaries that determine individuals IT acceptance behaviour. Therefore, interviewing religious scholars help in revealing these religious teachings and how they might affect IT acceptance. The second type of

interview is the in-depth interview. These interviews are conducted with bank consumers and aimed to pick up the cultural values and any other factors that may impact on consumers' acceptance of Internet-only banks in Saudi Arabia. In-depth interviews were chosen as the best approach for their ability to uncover the deep cultural values that impact on Internet-only bank acceptance in Saudi Arabia. The in-depth interview aims to help answer the following research question: What are the factors that might influence consumers' intention to use Internet-only banks?

As figure (5-6) illustrated, the quantitative study was done in this thesis. The survey was used in the quantitative study as a data collection method. Both online and paper-based questionnaires were used to collect the data from respondents. The quantitative study in this research concentrated on testing the relationships between variables which have been referred to by previous literature as influencers on consumers' technology acceptance. In this study the researcher wants to answer the following research questions:

Does religiosity influence the development of perceptions of risk, trust, and ease of use that may determine consumer adoption of Internet-only banks?

Is TAM sensitive to the different religiosity levels?

The quantitative study is also interested in investigating the relationship between religiosity and human values.

After finishing with the data collection and analysis for both the quantitative and qualitative study in this research, the results of the two studies were integrated and compared in order to validate results and get to better conclusion regarding the phenomenon under investigation.

5.4 Background of the study location

Understanding the target audience is one of the key elements of effective marketing strategies. Bearing this in mind, this section is devoted to providing information on the research setting. It covers topics related to understanding Saudi Arabia as the hub of Islamic countries. It also describes the banking sector in Saudi Arabia, and provides justification for choosing Saudi Arabia as an appropriate setting for this study.

5.4.1 General information about Saudi Arabia

The Kingdom of Saudi Arabia consists of an area of 2,149,690 sq km, and is ranked as the fourteenth largest country in the world by area (The World Fact Book, 2012). According to the Centre for the Department of Statistics in Saudi Arabia (2011) Saudi Arabia's population was 27,136,977 at the end of 2010. Table 5-3 shows the distribution of population in Saudi Arabia among the Saudi provinces. As the table shows, the majority of the population lives in the main cities. About half of the population is under the age of 20 (Alexander, 1997).

The first language in Saudi Arabia is Arabic. The official religion of Saudi Arabia is Islam. About 25 million people are Muslim, or 97 percent of the total population. About 85–90 percent of Saudis are Sunni, while Shyaat make up around 10–15 percent of the Muslim population. Most Saudis follow the Hanbali School of jurisprudence, though there are significant numbers of followers of the Shafai School and the Maliki School (Iqbal, 2002). The guiding principle of government rule in Saudi Arabia is the Islamic law (Shari'ah) (Iqbal, 2002). In Saudi Arabia, Islamic dogma governs all aspects of life, spirituality and religious practice, law, business and government (Iqbal, 2002). The country is a monarchy and the Qur'an has been declared the basis of the kingdom's constitution, which based on Islamic law. Religious freedom is virtually non-existent in Saudi Arabia.

No churches or other non-Muslim houses of worship are permitted in the country. Practitioners of other religions can worship only in private. Islamic law (Shari'ah) is the official law in Saudi Arabia.

In Saudi Arabia, education is free at all levels. The school system is composed of elementary, intermediate, and secondary schools. A large part of the curriculum at all levels is devoted to Islam, and, at the secondary level, students are able to follow either a religious or a technical path (Wiki, a, 2001). The literacy rate is 85 percent among males and around 70 percent among females (The World Fact Book, 2011). The study of Islam dominates the Saudi educational system. In particular, the memorisation by rote of large parts of the Qur'an, its interpretation and the application of Islamic tradition to everyday life is at the core of the curriculum.

Table (5-3). Distribution of Saudi Arabia population by province, year 2010

Province	Population by (2010)
Riyadh	6,777,146
Makah	6,915,006
Al-Medina	1,777,933
Eastern	4,105,780
Al-Qassim	1,215,858
Asir	1,913,392
Tabouk	791,535
Hail	597,144
Northern border	320,524
Al Jowf	440,009
Najran	505,652
Jazan	1,365,110
Al-Bahah	411,888
Source: Central Department of Statistics and Information (2011)	

Religion taught in this manner is also a compulsory subject for all university students. Saudi Arabia is a very conservative country with centuries-old attitudes and

traditions, often derived from Arab tribal culture. Daily life is dominated by Islamic observance. Five times each day, Muslims are called to prayer from the minarets of mosques scattered throughout the country. Because Friday is the holiest day for Muslims, the weekend begins on Thursday (Wiki, a, 2001). Saudis respect their tradition, as they believe they are rooted in Islamic teaching and Arabic culture. The tradition is usually transferred to young generations from their families at early age. Traditions in Saudi society are very important and play a vital role in some Saudi tribes. Even with their movement toward modernity, Saudis still adhere to their traditional values and customs. Observers can witness that in the way Saudis dress and their way of life.

Islam governs every aspect of Muslim life (Gorrill, 2004), and Saudi society is not an exception. On other hand, Saudi society can also be described as a multi-racial, affluent society with varying needs and tastes and annual merchandise imports in excess of \$25 billion (Azzam, 1992). The majority of the population consists of young people who are well educated and informed about what is available in the marketplace as they enter the work force (Giunipero & Flint, 2001).

5.4.2 Internet Technology diffusion in Saudi Arabia

Compared to other Islamic Arabic countries, Saudi Arabia is considered more conservative in regard to religion and values (Al Salem, 2005). Although the Internet was introduced to Saudi Arabia in 1994, most people were not allowed access to it until 1999 (Shteiwi, 2003). Internet diffusion was slow because of the challenges that faced its introduction. One of these challenges came from some groups that tried to restrict the access to the Internet in Saudi Arabia. Some Saudis did not wish to have Internet access, in their homes as they believed it has negative influences on both their culture and religion. Some extremists considered the Internet a Western evil sent to Muslim countries as a way to destroy their Islamic values. In the minds of such the extremists, the Internet has been linked to globalisation, a term interpreted these extremist groups to

indicate dissolving the boundaries between cultures and countries, so threatening to turn the country into a secular state where religion and state would be separate (Al Salem, 2005). Such thoughts are built on their misunderstanding of the teachings of Islamic religion. As discussed earlier in section (1.2) of this thesis, Islam is not against the acquisition and use of all kind of technologies. Islamic teaching encourages Muslims to seek knowledge and work to advance it in a way that helps improve the quality of life for humankind and other creatures on earth. The resistance to accepting the Internet in Saudi Arabia has decreased recently. The Saudi Grand Mufti (Sheikh Abdul Aziz Al-Sheikh) has announced that the Internet is a useful tool for Islam (Al-Medina, 2011), although some Muslim minorities who do not share the search of knowledge that is a key part of Islam are hesitating to allow Internet access into their homes.

This Muslim minority who resist adopting the Internet can be said to actually contradict the essence of the Islamic religion as the Holy Qur`an (the Muslim holy book) encourages people to seek knowledge and wisdom regardless of its origin (Al Salem, 2005). However, the Internet has faced slow penetration from its first introduction to the Saudi market, as table 5-4 shows. The numbers of Internet users has grown dramatically over the last ten years. Table 5-4 shows that the number of Internet users has grown by almost 30 percent from 200,000 users to around 9,800,000. This growth can be related to the improvement of the telecommunication infrastructure on the one hand, and consumers' realisation of the importance of the Internet in facilitating their life, government support and religious scholars' approval of such innovations on the other.

According to the Saudi Communications Commission (2011), the number of Internet users grew from around 1 million in 2001 to an estimated 11.4 million at the end of 2010, which means that Internet penetration had increased to 41 percent of the Saudi Arabia population by the end of 2010. Internet penetration in Saudi Arabia is higher than the world average of 28.7 percent, the Arab States' average of 24.9 percent and the developing countries' average of 21 percent, but is lower than the developed countries' average of 71 percent.

This rapid growth of Internet use in Saudi Arabia could be attributed to the increased awareness of the benefits of the Internet, the significant growth in broadband services and available speeds, in addition to the continuing decline in the prices of devices and services, and more provision of electronic applications and transactions (e.g., banking and e-services).

In addition to the increased Saudi use of the Internet as a source of information, it is now used intensively for purchasing. Middle East (2011) indicated that Saudi Internet users spent at least 10 billion USD in buying products and services online. This means that Saudis are clearly very attracted to using the Internet technology for purchasing.

Table (5-4). Penetration of Internet service in Saudi Arabia

YEAR	Users	Population	% Population
2000	200,000	21,624,422	0.90%
2003	1,500,000	21,771,609	6.90%
2005	2,540,000	23,595,634	10.80%
2007	4,700,000	24,069,943	19.50%
2009	7,761,800	28,686,633	27.10%
2010	9,800,000	25,731,776	38.10%
Source: Saudi Communications Commission (2011).			

5.4.3 Banking in Saudi Arabia

The Saudi banking market is considered one of the largest and fast growing markets in the Middle East. It is ranked as the second largest market after the United Arab Emirates in terms of assets. It is estimated that it will grow to around 13 percent during 2010–2013. Saudi banks have also expanded their adoption of modern technologies, including Internet banking, phone banking and ATM banking services. Saudi banks are modernising their payment cards and are moving to providing smart cards as a way to

increase security and utility for their customers (Marketsmonitor, 2011). There are at least 16 commercial banks providing their services in the Saudi market through various channels.

Table 5-5 lists the number of branches of banks in the provinces of Saudi Arabia. By looking at table 5-5 it may be realised that the number of branches in each province depends solely in the density of the population in such provinces, as shown in table 5-3. These banks also provide their customers with a wide net of ATMs which are distributed across Saudi Arabia. Table (5-6) shows that the Al Rajhi bank, which is considered one of the largest Islamic banks in the world, has the largest number of ATM machines in Saudi Arabia.

Table (5-5). Bank branches operating in Saudi Arabia by province

	2006	2007	2008	2009	2010	2011
Riyadh	377	403	427	451	481	484
Makah	301	314	317	345	360	361
Al-Medina	63	65	66	69	70	72
Eastern	216	231	258	283	303	307
Al-Qassim	81	87	93	96	96	98
Asir	82	83	85	96	99	99
Tabouk	31	31	34	39	40	40
Hail	26	27	27	28	30	31
Northern border	13	13	12	13	13	14
Al Jowf	17	17	18	20	20	20
Najran	18	18	19	20	20	21
Jazan	30	31	30	34	34	35
Al-Bahah	21	21	24	25	25	25
Source: SAMA (2011)						

“Of the 11 Saudi banks reporting results at the end of the 2006, three (Al Rajhi, Al Jazira and Al Bilad), represent that all their operations are conducted in a Shari’a-compliant manner. As a result, all of their ‘loans and advances’ (termed ‘investments’

by Al Rajhi and Al Bilad) are Shari'a-compliant...The other banks, with one exception, including a reference to the size of Shari'a-compliant facilities as part of the note to the loans and advances item on their balance sheets. The exception is the Arab National Bank, which makes no reference to Shari'a-compliant facilities under 'loans and advances' (Cunningham, 2007).

5.4.4 E-banking in Saudi Arabia

Almost all of the e-banking services, except for branchless banking, are currently available in several Saudi banks. Many banks have adopted the Internet in conjunction with an existing network of ATMs, WAP and mobile payment services (Al-Jarf, 2010).

Table (5-6). Distribution of ATMs in Saudi Arabia by bank

Bank name	2006	2007	2008	2009	2010	2011
The National commercial bank	1048	1184	1384	1485	1626	1656
Riyadh bank	1262	1562	2027	2433	2576	2592
Banque Saudi France	222	320	274	330	385	396
The Arabic national bank	216	231	258	283	303	307
Saudi British bank	308	401	452	474	510	502
Bank al Jazira	112	190	314	296	308	305
Saudi Hollandi bank	166	179	169	221	245	255
Saudi investment bank	184	221	247	293	324	330
Al Rajhi bank	1592	1921	2266	2460	2760	2812
Samba financial group	398	1921	2266	2460	2750	2812
Al Bilad bank	240	400	420	450	497	503
Emirates NBD	1	5	5	12	15	15
National bank of Kuwait	-	1	1	1	1	1
Mus bank	-	3	3	4	5	5
Al Inma bank	-	-	-	82	190	243
National Bank of Bahrain	-	-	1	1	1	1
Source: SAMA (2011)						

Saudi Arabia introduced an Internet service in 1999. Within a year, Saudi banks started to offer IB services to their customers (Jasimuddin, 2012). By 2011, 16 retail banks with 1607 branches were operating across Saudi Arabia. All of these banks had established their presence on websites and were offering full IB services (table 5-7). These websites can be viewed in either Arabic or English for clients' convenience. Saudi banks also provide more traditional banking services such as phone banking, ATM and

branch banking services. By adopting this integrated approach, the Saudi banks are trying to satisfy all groups of customers.

The Saudi government has played an important role in facilitating and encouraging the movement toward the use of electronic services by taking the following actions:

- 1) A project has been launched to enhance technological culture in Saudi society by providing free computer training programmers, offering computers to students at lower prices and equipping over 21,000 schools with computers, networks, and open Internet access.
- 2) The Saudi Telecommunication Company is enhancing its services by providing a high-speed Internet connection with prices acceptable to customers.
- 3) A technical committee for e-commerce was established in 2001 to create a legal framework, improve the infrastructure and develop technical support and training.
- 4) The Saudi Government has identified the establishment of e-Government as an important national goal and is currently developing its policies, strategies, and options. The government is also studying available technological solutions for the electronic delivery of government services (Al-Jarf, 2010).

The Saudi Arabia monetary agency (SAMA) has played an important role in the introduction of IB to the Saudi market. SAMA regulates the process of providing all e-banking services. The introduction of IB required that banks should control and monitor the risks involved. SAMA is involved in the following supervisory functions:

1. Holding discussions with individual institutions that wish to embark on Internet banking to allow them to demonstrate if they have properly addressed the security risks before starting to provide such services.
2. Including specific Internet banking issues in SAMA's regular off-site and on-site bank examination processes.
3. Encouraging an internal audit review of Internet banking facilities, systems and processes.
4. Ensure that data accessible to outsiders is encrypted using industry proven encryption techniques.
5. Take particular care to ensure the physical and electronic security of the root keys and any certification authority systems used.
6. Ensure that adequate measures are adopted to prevent intruders from gaining

unauthorised access to banks' internal computer systems. 7. Establish a set of comprehensive security policies and procedures to deal with major aspects of security and security violations. 8. Monitor and report to SAMA on all security incidents on a timely basis. 9. Review the adequacy of security measures (by internal and external experts) on an ongoing basis and periodically report the results of such reviews to SAMA (Al-Jarf, 2010).

Table (5-7). Banks working in the Saudi market and their websites

Bank name	Website
The National commercial bank	http://www.alahli.com/
Riyadh bank	http://www.riyadbank.com/
Banque Saudi France	http://www.alfransi.com.sa
The Arabic national bank	http://www.anb.com.sa/
Saudi British bank	http://www.sabb.com/1/2/
Bank al jazira	http://www.baj.com.sa
Saudi Hollandi bank	http://www.shb.com.sa
Saudi investment bank	http://www.saib.com.sa
Al Rajhi bank	http://www.alrajhibank.com.sa
Samba financial group	http://www.samba.com
Al Bilad bank	http://www.bankalbilad.com
Emirates NBD	http://www.emiratesnbd.com.sa/
National bank of Kuwait	http://www.nbk.com/
Muscat bank	http://www.bankmuscat.com/ar-sa/
Al Inma bank	http://www.alinma.com/
National Bank of Bahrain	http://www.nbbonline.com/
Source: the researcher	

In its efforts to improve security in online banking, SAMA has imposed a new pin code system on all banks working in Saudi Arabia. The bank customer will need to enter a new secret number, a user name and a password after every online transaction or if they are on the telephone, they will need to use the new secret number sent to the customers' registered mobile number after they log into their accounts (Arab business, 2011). This security system has been introduced by the Al Rajhi bank, which is considered to be the no 1 bank in Saudi Arabia. Most Saudis consider this system to be a useful tool, which reassures them of the security of the online banking services. However, some consumers believe that this kind of security system makes the online banking more complicated and time consuming.

5.4.5 Justification for choosing Saudi Arabia as an appropriate setting for this study

There are a number of reasons for choosing Saudi Arabia as an appropriate setting for this study. First, most studies of technology acceptance have been conducted in a Western context, which limits their generalisability in the developing countries. There is large tendency in IT models and literature to ignore the fundamental cross-cultural differences in consumer decision-making processes and motivation. IT theories developed in Western countries may not be applicable to other cultures as they are culturally bound to a Western conceptualisation of the world (McDonald, 1995). There is also the a question of the generalisability of the findings of these IT models, as almost all of the IT acceptance models have been generated and tested in Western countries, therefore there is a question about the relevance of their findings to non-Western markets such as Saudi Arabia. Thus, in order to test the applicability of an IT model to predict consumers' behaviour in different cultural settings, there is a need to test such models in different cultural settings. Furthermore, conducting IT technology acceptance model in a specific setting can significantly contribute to technology acceptance knowledge. To this end, Saudi Arabia has been selected as a setting for the study as it has a unique cultural composition and a diverse consumer population.

Second, in an Islamic context, Saudi Arabia is unique. Saudi Arabia is the birthplace of Islam and home to Islam's two holiest shrines in Mecca and Medina, so it represents the heart of the Islamic religion. More than two million Muslims visit Mecca every year to fulfil the fifth pillar of Islam, the 'hajj'. Many Muslims also travel to Saudi Arabia during the year to perform 'omrah'. As Saudi Arabia is conservative Islamic country that uses the Islamic (Shari'ah) legal system most Muslims respect and have confidence in Saudi religious scholars and follow their 'fatwa'. In addition, almost a quarter of the Saudi population is made up of foreigners (see section 9.3.3). Most of the foreigners in Saudi Arabia are from different Islamic countries. For these reasons, Saudi

Arabia provides a particularly appropriate context for the present study, in which a sample representing Islamic religion will be drawn from its population.

Third, even though there has been an abundance of research into consumer behaviour in Saudi Arabia, little research has been conducted into the relationship of religion to aspects of consumer behaviour. The review of the literature about the influence of religion and religiosity in consumer behaviour in chapter four of this thesis indicates that most of the previous studies on this topic have been conducted with religious groups such as Jews, Protestants and Catholics (e.g., Delener 1987, 1989, 1990a, 1990b, 1994; Delener & Schiffman 1988; McDaniel & Burnett 1990, 1991; LaBarbera & Gurhan 1997).

Fourth, despite leverage investment by Saudi government in telecommunications and IT and industry, there is still a problem in the Saudi population regarding the acceptance of some technologies such as Internet. According to Internet World Stats (2012), by 31 December 2011 only 43.6 per cent of Saudi population (11,400,000 people) was using the Internet. This relatively low level of Internet penetration indicates that merely overcoming the problems of traditional IT acceptance barriers may be insufficient, and that there is a need to explore the additional factors that may help to encourage and foster Internet acceptance in developing countries.

5.5 Summary

The aim of this chapter has been to discuss the philosophical and methodological approaches adopted in this thesis. The ontological, epistemological, and methodological aspects related to post-positivist philosophy have also been examined. The choice of the post-positivism as the philosophical foundation for this thesis was based on the appropriateness of this philosophical paradigm to the nature of the research topic, with regard to the effect of cultural elements on consumers' technology acceptance behaviour. The interpretivist forms of understanding are reflected in the exploratory

phase, which uses an interpretivist understanding of the research variables followed by model testing phase, as well as a positivist understanding of the relationships between research variables.

In this chapter, the advantages of implementing mixed methods methodology have also been examined. It has been argued that it is important to adopt a multi-method approach to collecting data with regard to investigating the effect of religion and values on consumer technology adoption behaviour. This social phenomenon has not received enough attention. The use of mixed methods as a research methodological approach is essential in understanding of the research problems and increasing the validity of the research results. The use of qualitative and quantitative data collection and analysis methods has been justified throughout this chapter. A detailed description of the way these instruments have been designed and how data will be analysed is given in chapters 6 and 8.

The next chapter of this thesis will include a discussion of a qualitative study. An in-depth discussion of the qualitative study process including data collection, data analysis, of the qualitative study will be featured in chapter 6.

Chapter six: The design of the qualitative study

6.1 Introduction

In the previous chapter the philosophical and the methodological approach of the thesis was explained. The decision was made to adopt the post-positivist paradigm as a philosophical approach of the research. Also the mixed method approach was discussed as a methodological approach. Hence, both the qualitative and the quantitative approaches are utilised in this thesis.

Based on the literature review that covered several disciplines, the main research questions have been initially phrased. This research investigates the factors that affect consumer acceptance of technologies. In particular this research emphasises understanding the influence of religious affiliation and religiosity in consumer technology acceptance behaviour. There have been relatively few specific findings linking technology acceptance to religious variables. Therefore, qualitative study is required in order to gain an in-depth understanding of this matter. The qualitative method stresses the importance of the processes, meaning and understanding of human experience. Maxwell (2005:125–127) suggests that the qualitative research should organised as follows: 1) abstract, 2) introduction, 3) conceptual framework, 4) research questions, 5) research methods: research design; research relationships; site and participants selection; data collection; data analysis, 6) validity, 7) preliminary results, 8) conclusion. These steps were followed through the qualitative study of this thesis.

This chapter discuss the qualitative methods to be used in this thesis. The chapter starts by justifying the use of qualitative study for the purpose of this study. This chapter then discusses the main goal(s) of the qualitative study. This is followed by the qualitative data collection methods and the qualitative analysis method to be used. The chapter also discussed the credibility and ethical issues related to qualitative data. It also presents the transcription, the coding and the writing of the final report of the qualitative

study. A detailed discussion of each of the interviews procedures is also presented here. The chapter is then concluded with a summary of what have been discussed through the chapter.

6.2 Justification of the use of the Qualitative methodology

Qualitative research is used in this study to obtain data that reflects the interviewee's opinion about the research phenomena. The induction characteristic of qualitative methods was important for this research for three reasons. Firstly, although IB relationships are considered an established field of study in the Western countries, they have not received enough investigation in Arab countries yet, especially in the context of Saudi Arabia. As has been discussed earlier in section (2.1) of this study, consumer behaviour is considered complex and often influenced by a variety external and internal factors. Therefore, the qualitative method is capable of handling the complexity of the phenomenon. The qualitative method is used to explore the research topic in depth through interviewing knowledgeable Islamic scholars and banking consumers. The qualitative study of this research allows the researcher more flexibility in the gathering of information and more understanding of the factors that influence the acceptance of Internet-only banks within the Islamic context. The second reason for using the qualitative studying this research is the type of information this research intended to gain. The richness of qualitative data and their ability to fully describe consumers IB experience, also the ability of the qualitative data to unearth consumers' motives, perceptions, and considerations in regards to Internet-only bank experience. The depth and detail of qualitative data required to understand complex phenomena can be obtained only by getting psychologically close to the phenomena under study. Third, methodological triangulation has substantial benefits as it allows the use of both qualitative and quantitative methods in order to ensure some generalisation of the research findings. The remainder of this section include a brief discussion the justifications for including qualitative study in this thesis.

6.2.1 The adoption of the Internet-only banks

Because of the limited amount of research into consumers' adoption of Internet-only bank services, a qualitative investigation is appropriate. The use of qualitative methodology can broaden our understanding of the constructs relevant to this topic. Qualitative studies are particularly useful when the existing body of knowledge is limited (Marshall & Rossman, 2006; Miles & Huberman, 1994; Saunders et al., 2007), as it is in this situation. Whereas a quantitative approach is appropriate for theory testing, a qualitative approach is ideally suited for theory generation and exploration (Marshall & Rossman, 2006; Miles & Huberman, 1994).

The use of qualitative research to provide an insight into an undeveloped area has been termed the exploratory approach (Calder, 1977). Qualitative approaches have been used in the development of technology and service marketing theory across a wide range of topics such as religion and advertisements (Al-Olayan & Karande, 2000; Rice & Al-Mossawi, 2002) perceptions of risk among consumers (Lim, 2003; Littler and Melanthiou, 2006), consumer satisfaction with self-service technologies (Aziz et al., 2007; Meuter & Mary 1998) adoption of e-shopping (Kamarulzaman, 2007) resistance to IB (Kuisma et al., 2007) technology transformation in Arabic countries (Hill et al., 1998) consumers' acceptance of IB in developing economics (Qureshi, 2008) and older people's acceptance of mobile phones (Mallenius & Tuunainen, 2007; Van Biljon, 2008).

The use of qualitative methods in this thesis is appropriate for the same reasons that other studies have used qualitative approaches. For example, in their study of technology transformation in Arab countries Hill et al. (1998) were able to investigate the strength of the values that Muslims and Arabic people hold, and how these values could sometimes present a strong barrier to their acceptance and adoption of new technology. The authors used focus groups, structured interviews and surveys to explore the reasons for the slow pace of adoption of such technologies in Arabic countries.

Qualitative investigation has not been used much to examine consumers' adoption of Islamic banking and e-banking in Muslim countries. This is perhaps surprising, because the consumer perspective is a very important element in adoption decisions. Therefore, in order to better understand the adoption decision process, it is important to develop an in-depth understanding of the phenomenon from the adopter's perspective. In this situation consumers are the experts and their thought processes need to be investigated qualitatively.

External social factors that may influence consumers' value system should be investigated in order to develop an understanding of some of the external influencers that may shape consumers' attitudes. In addition, one of the important factors that could affect consumers' adoption of services and could create social pressure in them is the opinion leader. According to Hawkins et al. (2001), opinion leaders play an important role in consumers' adoption decisions. In the field of banking, most Muslims consider the Islamic scholars as opinion leaders and often refer to them for advice in regard to whether to accept banks' products and services. Therefore, examining the role of Islamic scholars in regard to the banks' products and services can help in predicting Muslim consumers' attitudes and intentions to adopt such products and services. The qualitative study includes semi-structured interviews with Muslim scholars to investigate their opinions on Internet-only banks, in order to understand their views on the legitimacy of such e-banking methods from a religious point view.

6.2.2 Methodological triangulation

Triangulation has been defined as "*the combination of methodologies in the study of the same phenomenon*" (Jick, 1979: 602). Using a qualitative along with quantitative design can strengthen the results of research (Meuter, 1999). Some researchers have suggested using a mixed methods approach which combines both qualitative and quantitative methods (Gable, 1994). Therefore, the use of a combination of both techniques is

important, particularly in social sciences research. The choice of multiple research techniques is supported by various studies (e.g., Winfield, 1990; Hirschheim, 1992; Brewer & Hunter, 2006).

Such a combination of data sets gives a more complete picture than can be obtained using either method alone. Researchers in the field of diffusion of innovation stress the important of triangulation (Meuter, 1999).

6.3 The goal of the qualitative study

Maxwell (2005) states that it is important to determine the research question at the beginning of the qualitative study. He also stresses the importance not only of stating unanswered research questions, but also of making sure that such questions are worth answering. A clear definition of the research goal is important in making the effort and managing the resources required to reach that goal. This also helps the researcher 1) guide other design decisions to ensure that the study is worth doing and 2) ensure that these decisions are essential to justify the study (Maxwell, 2005:15). The qualitative study used here aims to explore the influence of Islamic religion on technology acceptance. It also aims to explore the factors that may influence Muslim consumers' acceptance of Internet-only banks. In order to achieve these goals, the qualitative study is conducted through a multi-method design consisting of two types of interviews. Semi-structured interviews with religious scholars are conducted to identify the influence of religious teachings on Internet-only bank acceptance. And the in-depth interviews are conducted with bank consumers to investigate the factors that may influence their acceptance of Internet-only banks.

6.4 Data collection methods and analysis

This section of the thesis discusses the data collection and data analysis method used in the qualitative study of this thesis. The discussion started by presenting an overview of interviews as data collection method and then provided justifications for the use of each

data collection method and the procedure that has been followed to conduct each of the methods. The discussion is then continues to describe the data analysis process that have been followed to analyses the data obtained. This section also includes discussions of the credibility and eithical related to the qualitative data collection and analysis.

6.4.1 An overview of interviews as data collection method

There are alternative methods of conducting qualitative research, including ethnography, critical incident techniques, participant observation, and interviews (Miles & Huberman, 1994). Therefore, it is important to decide on the appropriate qualitative method for a particular research question. Interviews were used in the qualitative study of this thesis. The use of interviews allows probing, detailed exploration and clear focus in order to explore and support the proposed model. Moreover, according to Perry et al. (1997), unstructured and semi-structured interviews and case studies are relevant and acceptable within the critical realism paradigm as well as the descriptive statistical analysis (Bisman, 2010). Byrne (2004): 182) emphasises the importance of interviews,

Qualitative interviews are particularly useful as a research method for accessing individuals' attitudes and values – things that cannot necessarily be observed or accommodated in a formal questionnaire. Open-ended and flexible questions are likely to get a more considered response than closed questions and therefore provide better access to interviewees' views, interpretation of events, understandings, experiences and opinions... qualitative interviewing when done well is able to achieve a level of depth and complexity that is not available to other, particularly survey-based approaches.

Sarantakos (1998) refers to some of the advantages of the interview. These include flexibility, as the interview allows the researcher to deal with different situations, and a high response rate, as interviews are relatively easy to administer. Interviews also allow the researcher to observe nonverbal behaviour. This is a two-way communication method, allowing the researcher to control the order of asking the questions according to what the interviewee answers, so allowing the interviewer to

clarify misunderstood questions, to record the answers spontaneously, and to allow the interviewer to be sure of the identity of the interviewee. It allows the interviewer control over the time, date, and place of the interview. Hudson and Ozanne (1988) refer to the advantages of the interview method in allowing detailed exploration of the phenomenon under study, as they express the respondents' perspectives in their own words. The in-depth interview method has often been used in consumer research because it is so effective (Meuter, 1999). It enables interviewers to use questions that are more complex because their presence can assist in clarifying any question; and finally it permits in-depth investigations.

Interviews were used in IB acceptance literature, for instance, with the aim of highlighting views expressed about IB in the early stages of marketing. Littler and Melanthiou (2006) considered two phases of data collection in their research. The first was a small-scale study involving in-depth personal interviews with a small convenient sample of five IB users and non-users of various age groups and both genders.

There are several types of interviews available for the researcher to choose from, including in-depth interviews, group interviews and standardised interviews (Oppenheim, 1992). Interviews are classified according to the degree of structure, as unstructured, semi-structured and structured interviews. Many researchers considered interviews to be one of the important instruments used in data collection within the qualitative research approach (Fontana & Frey, 1994). Sturm and Cohen (2004) believe that data collected through interviews are more reliable if they are collected directly. Erlandson et al. (1993: 85) point out that interviews help the researcher to *“understand and put into larger context the interpersonal, social, and cultural aspects of the environment”*. Patton (1990: 195) refers to two features of the interview, *“We interview people to find out from them those things we cannot directly observe... we cannot observe feelings, thoughts, and intentions. We cannot observe behaviour that takes place at some previous point in time... the purpose of interviewing, then, is to allow us to enter into the other person's perspective”*.

Kerlinger (1986) indicate that an interview can be used for three purposes, as 1) the main instrument of research, 2) as an exploratory device to help identify variables and relations, and 3) as supplement to other data collection methods where it can be used to go deeper into the respondents' motivations and their reasons for responding as they do. The current study conducts interviews for the following purposes: first, the semi-structured interviews were conducted as the main research instrument to obtain some understanding in how religion teaches may influence the approval and acceptance of Internet-only banks in Muslim countries. Second, the in-depth interviews aimed to act as supplements for the survey study for in-depth understanding of Muslim consumers' motives and obstacles to the use of Internet-only banks. In this study, the in-depth interviews help in exploring the variables that most influence Muslim consumers' acceptance of Internet-only banks. Although there were sufficient studies in information technology (IT), e-commerce, e-banking and IB acceptance that pinpoint many variables that are believed they influence consumers' technology acceptance, but most of these studies were conducted in the Western countries which are in different cultural contexts from the Islamic countries. In addition, the previous studies in IB are more related to consumers' acceptance of a type of banking in which some tangible element of branch banking still exists. Internet-only banks, however, are beyond the extreme end of the tangible spectrum as they are sometimes referred to as branchless banks, which makes risk perception high and trust low for this type of bank. Therefore, in-depth interviews are useful to help the researcher get better understanding of consumers' behaviour. Third, results from interviews analysis were used to triangulate survey analysis.

Two types of interviews were used in this study: semi-structured and in-depth. A discussion of each type of interview follows. The semi-structured interview leaves room for unstructured data, both in the form of atmosphere, speech and other rich sources of information (Henriksen, 2002). Moreover, Smith (1995) states that semi-structured interviews assist researchers in acquiring a detailed picture of a respondent's beliefs about, or perceptions of, a particular phenomenon. Interviews are also seen as being appropriate in orally dominated societies such as Arabic culture (Zaharna, 1995).

Furthermore, Honold (1999) mentions that observations and interviews with end-users in the cultures of interest should be conducted to complement the empirical setting.

On the other hand, Minichiello et al. (1990: 19) define in-depth interviews as “*repeated face-to-face encounters between the researcher and informants directed toward understanding informants’ perspectives on their lives, experiences or situations as expressed in their own words*”. One of the most common qualitative methods is the in-depth interview. One reason for the popularity of the in-depth interview is that it can be very effective in giving a ‘*human face*’ to research problems (Mack et al., 2005). Some of the key advantages of the in-depth interview are that it allows the researcher to plumb deeper with a participant, and to gain greater knowledge and insight than can be obtained in focus groups. It can be physically set up almost anywhere, and is far easier to schedule. It is a relatively easier and faster way to recruit the right candidate for in-depth interviews than to recruit them for focus groups. Participants will almost always feel far more comfortable talking openly, honestly and in-depth about issues in a one-to-one setting than in a focus group. This typically leads to richer and more in-depth data being collected (Hitchcock, 2011).

The in-depth interview is utilised in this thesis in order to investigate Muslim attitudes and intentions to adopt Internet-only banks. The form of the in-depth interview has been chosen to achieve this goal, because, as has been discussed earlier in this section, in-depth interviews provide deep insight and knowledge about interviewees, allowing the interviewer to gain further understanding of the consumers’ opinions. Therefore, it is more useful in exploring how the Muslim consumer perceives Internet-only banks and how their religiosity, values and other personal aspects may influence their decisions about Internet-only banks.

Discussions of the procedure that have been followed to conduct each type of interview are presented in sections (6.5.1) and (6.5.2) of this chapter.

6.4.2 Data analysis strategy

The main qualitative analysis technique to be applied in this thesis is the thematic analysis. In this thesis, the researcher searches for structures and patterned regularities in the text and evokes influences based on these regularities. The qualitative results are used along with the literature review to triangulate the validity of the quantitative results.

Researchers (e.g., Maxwell, 1996; Erlandson et al., 1993; Lincoln & Guba, 1985) stress that it is important for the researcher to commence data analysis from when the qualitative data is first received. According to Maxwell (1996: 77), it is not helpful for a researcher to delay qualitative data analysis until the end of the process of data collection. *“One of the commonest problems in qualitative studies is letting your unanalyzed field notes transcripts pile up, making the task of final analysis much more difficult and discouraging”*. Indeed, analysing qualitative data during the process of data collection helps the researcher grasp important themes that may come up during data collection and this may shed light on issues that have been ignored. This can help in generating new questions for later interviews, especially the in-depth interviews. It also makes the task of data analysis less complicated. It is also important that the researcher read the collected data thoroughly and carefully before analysing them (Maxwell, 1996). Maxwell also emphasises the importance of using notes and memos to help develop analytical ideas about categories and relationships (Maxwell, 1996: 78).

Qualitative data analysis is not a straight one-way process, as the *“Analysis involves a constant moving back and forward between the entire data set”* (Braun & Clarke, 2006: 86). Table 6-1 presents phases of thematic analysis as one of the methods of qualitative data analysis. These steps in conducting thematic analysis are followed in the qualitative data analysis of this thesis.

In conducting qualitative data analysis, the researcher should be aware of certain issues such as validity, trustworthiness, researcher bias, reactivity, triangulation and ethical issues.

Table (6-1). Phases of thematic analysis

Phase	Description of the process
1. Familiarising yourself with your data:	Transcribing data (if necessary), reading and re- reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all the data relevant to each potential theme.
4. Reviewing themes:	Checking in the themes in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic map of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.
Source: Braun and Clarke (2006: 87)	

Understanding the assumptions regarding the way researchers analysed the data is very important in conducting qualitative data analysis. As the transparency in the data analysis will allow others to evaluate, compare and synthesise results with other studies results (Braun & Clark, 2006). *“Thematic analysis is a data reduction and analysis strategy by which qualitative data are segmented, categorized, summarized, and reconstructed in a way that captures important concepts within the data set”* (Ayres, 2008: 868). Despite this, *“thematic analysis is one of the first analytic techniques that most qualitative researchers learn”* (Buetow, 2009:123). However, the literature on the characteristics and process of thematic analysis is rather insufficient (Aronson, 1992; Braun & Clark, 2006). *“Thematic analysis involves the searching across a data set ... to find repeated patterns of meaning”* (Braun & Clark, 2006: 86). Braun and Clark (2006: 88) argue that thematic analysis is different from other methods of qualitative data analysis such as grounded theory and discourse analysis as these methods *“seek to describe patterns across qualitative data”*. *“As thematic analysis does not require the*

detailed theoretical and technological knowledge of approaches such as grounded theory and DA, it can offer a more accessible form of analysis, particularly for those early in a qualitative research career”.

Table (6-2). Summary of the advantages of thematic analysis

<ol style="list-style-type: none"> 1. Flexibility. 2. Relatively easy and quick method to learn, and do. 3. Accessible to researchers with little or no experience of qualitative research. 4. Results are generally accessible to educated public. 5. Useful method for working within participatory research paradigm, with participants as collaborators. 6. Can usefully summaries key features of a large body of data, and/or offer a “thick description” of the data set. 7. Can highlight similarities <i>and</i> differences across the data set. 8. Can generate unanticipated insights. 9. Allows for social as well as psychological interpretations of data. 10. Can be useful for producing qualitative analyses suited to informing policy development.
Source: Braun and Clarke (2006: 97)

According to Boyatzis (1998: 4–5), thematic analysis functions as: (1) a way of seeing; (2) a way of making sense of seemingly unrelated material; (3) a way of analysing qualitative information; (4) a way of systematically observing a person, an interaction, a group, a situation, an organisation, or a culture; and (5) a way of converting qualitative information into quantitative data. Thematic analysis has several advantages, which make it popular in qualitative data analysis. A summary of the advantages of the thematic analyses is presented in table 6-2.

One of the fundamental questions that could be asked in the thematic analysis is what is a theme and what determines the size of that theme. Braun and Clark (2006: 82) define a theme as *“patterned response or meaning within the dataset. A theme should capture important information that are related to the research question and represents some level of patterned response or meaning within the data set”*. The theme generation process should not be looked on as a simple process of counting words (Firmin, 2008: 869). In fact, themes can be identified by *“bringing together components or fragments of*

ideas or experiences, which often are meaningless when viewed alone” (Leininger, 1985: 60).

According to Braun and Clark (2006: 82) the size and number of occurrences of themes is not the most important issue in thematic analysis. *“A theme might be given considerable space in some data items, and little or none in others, or it might appear in relatively little of the data set. So researcher judgment is necessary to determine what a theme is”*. Braun and Clark (2006: 83) elaborated on the idea of counting themes in the thematic analysis, indicating that it is not as important as obtaining valuable information that helps in answering a research question. *“The keyness of a theme is not necessarily dependent on quantifiable measures, but in terms of whether it captures something important in relation to the overall research question”*.

In thematic analysis, there are two ways to identify themes: inductive or deductive. The first is sometimes called ‘bottom-up’ while the second is usually referred to as theoretical or ‘top-down’. *“An inductive approach means the themes identified are strongly linked to the data themselves”*. In the inductive approach *“the themes identified may bear little relationship to the specific question that was asked of the participants. They would also not be driven by the researcher’s theoretical interest in the area or topic. Inductive analysis is therefore a process of coding the data without trying to fit it into a pre-existing coding frame, or the researcher’s analytic preconceptions. In this sense, this form of thematic analysis is data- driven”*.

On the other hand, in the deductive approach *“thematic analysis would tend to be driven by the researcher’s theoretical or analytic interest in the area...this form of thematic analysis tends to provide less a rich description of the data overall, and more a detailed analysis of some aspect of the data”* (Braun & Clark, 2006: 83–84). In the qualitative data analysis of this thesis an inductive approach was adopted to analyse data collected through elite interviews. The deductive approach was adopted to analyse data collected through the in-depth interviews. More details on the reasons of adopting each

approach for each particular interview type are discussed in sections (6.5.1 and 6.5.2) in this chapter.

Another decision that needs to be made with regards to the thematic analysis concerns the level of the analysis. According to Braun and Clark (2006: 84), there are two levels “*at which themes are to be identified*”. These are on a “*semantic or explicit level, or at a latent or interpretative level...with a semantic approach, the themes are identified within the explicit or surface meanings of the data and the analyst is not looking for anything beyond what a participant has said or what has been written...In contrast, a thematic analysis at the latent level goes beyond the semantic content of the data, and starts to identify or examine the underlying ideas, assumptions, and conceptualizations*”. In regard to the level of analysis of qualitative data analysis of this thesis, the semantic level of analysis was conducted on data collected through semi-structured interviews. On the other hand, explicit level of analysis was conducted on data collected through the in-depth interviews. More details on the reasons of adopting each approach for each particular interview type are discussed in section 6.5.1 and 6.5.2 of this chapter.

Table 6-3 provides a check list of the recommended steps in conducting thematic analysis.

Table (6-3). A 15-point checklist of criteria for good thematic analysis

Process	No	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.
Coding	2	Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all themes have been collated.
	5	Themes have been checked against each other and with reference to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
Analysis	7	Data have been analysed – interpreted, made sense of - rather than just paraphrased or described.
	8	Analysis and data match each other – the extracts illustrate the analytical claims.
	9	Analysis tells a convincing and well-organised story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
Overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once over lightly.
Writing report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do and what you show you have done – i.e., the described method and the reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as <i>active</i> in the research process; themes do not just 'emerge'.
Source: Braun and Clarke (2006: 96)		

According to Braun and Clark (2006: 94–95), several potential pitfalls should be considered when conducting thematic analysis. First of all the researcher should be aware that “*thematic analysis is not just a collection of extracts strung together with little or no analytic narrative*”. Second, themes are not the same as research questions. Some researchers found it easier to use “*the data collection questions... as the themes... In such a case, no analytic work has been done to identify themes across the entire data set*”. Third, “*a weak or unconvincing analysis, where the themes do not appear to work, where there is too much overlap between themes, or where the themes are not internally coherent and consistent*”. Fourth, there may be a “*mismatch between the data and the analytic claims that are made about it. In such an (unfounded) analysis, the claims cannot be supported by the data, or, in the worst case, the data extracts presented suggest another analysis or even contradict the claims*”. Fifth, there could be a

“mismatch between theory and analytic claims, or between the research questions and the form of thematic analysis used. A good thematic analysis needs to make sure that the interpretations of the data are consistent with the theoretical framework”. Finally, examples of failure to present a detailed illustration of the way the analysis has been conducted and its purpose are considered.

The following sub-sections discuss the criteria for good thematic analysis which have been presented in table 6-3. This include the discussion of data collection and transcribing, coding, thematic analysis of the data, and writing the final report.

6.4.2.1 Collecting data and transcription

As with any qualitative data analysis, collecting data is the first step in thematic analysis. The use of audiotapes is recommended for collecting data during interviews (Aronson, 1992). After collecting data, either through audio or videotapes and researcher field notes, the transcription of the conversations began. In regard to transcripts, thematic analysis, *“does not require the same level of detail in the transcript ... As there is no one way to conduct thematic analysis, there is no one set of guidelines to follow when producing a transcript”* (Braun & Clark, 2006: 88).

For the interview validity and reliability and because the majority of the key interviewees speak in Arabic, most of the study interviews were conducted in Arabic. After inviting the key informants and writing down all the interviews. Interviews were translate it from the Arabic version to the English version, the pre-test version was sent to two bilingual Arabic (Arabic/ English people) to ensure that the two versions of the interviews matched as closely as possible. The English version was translated into Arabic by a bilingual Arabic speaker, and then translated back to English by another bilingual Arabic speaker working independently. The interviews for both language versions were compared, in order to resolve any differences. The final versions were then used for the main study.

6.4.2.2 Coding

Coding of the data is one of the important steps in thematic analysis as it “*facilitates the development of themes*” (Ayres, 2008: 868). According to Saldana (2009: 50–51), in using the suitable coding method one needs to answer certain questions such as: Is the coding method (s) harmonising with the conceptual or theoretical framework of the study?, Does the coding method (s) relate to or address the research question (s)? Ayres (2008: 868) describes the process of coding as separating “*portions of data from their original context and labelling them in some way so that all data bearing the same label can be retrieved and inspected together*”. According to Maxwell (1996), the process of coding is involved with classifying data into themes and categories. “*Thematic coding is the strategy by which data are segmented and categorized for thematic analysis*” (Ayres, 2008: 868). In thematic analysis there is no one way to conduct coding, as “*Coding will to some extent depend on whether the themes are more data-driven or theory-driven ... you might approach the data with specific questions in mind that you wish to code around*” (Braun & Clark, 2006: 88–89).

According to Saldana (2009: 45) there are two cycles of coding. The methods in the first cycle are “*those processes that happen during the initial coding of data and are divided into seven subcategories: Grammatical, Elemental, Affective, Literary and Language, Exploratory, Procedural and a final profile entitled Theming the data*”. The second cycle methods are pattern coding, focused coding, axial coding, theoretical coding, elaborative coding, and longitudinal coding. The second cycle coding methods are considered to be more difficult as they require more analytical skills. According to Miles and Huberman (1994: 65), “*Multiple coding is actually useful in exploratory studies*”. Therefore, in this study the researcher starts with holistic coding as the first coding cycle code, then follows this by pattern coding to develop the major themes from the data.

At the beginning of coding task the researcher starts with holistic coding. Holistic coding is suitable for new qualitative researcher and for studies with a wide variety of data forms. It becomes applicable when the researcher already has a general idea of what to investigate in the data. In this coding method there are no specific maximum length restrictions for data which is given a holistic code. (Saldana, 2009: 118).

In the second cycle of coding the researcher uses the pattern codes. According to Miles and Huberman (1994: 69), pattern codes are “*explanatory or inferential codes, ones that identify an emerging theme, configuration, or explanation.... pattern coding is a way of grouping these summaries into a smaller number of set, themes, or constructs*” (Miles & Huberman, 1994: 69).

Braun and Clark (2006) believe that there are two ways to generate codes in thematic analysis, one is theory-driven and the other is data-driven. Both methods are discussed in detail in section (6.4.3) in this chapter. On the other hand Miles and Huberman (1994: 58) refer to research elements as a source of codes “*One method to creating codes... is that of creating a provisional start list of codes prior to field work. That comes from the conceptual framework, list from researcher question, hypotheses, problem area, and/or key variables that researcher brings to study*” (Miles & Huberman, 1994: 58).

6.4.2.3 Thematic analysis of the data

The process of data analysis has been put through the phases recommended by Braun and Clark (2006). At first, the researcher tried to become familiar with the data, by first watching and listening to the interviews, reading the transcripts several times and reading the researcher’s notes. This stage is very important as it helps the researcher become engrossed in the details and attain a sense of the discussion as a whole before analysing it in parts. While the researcher conducted this process, major themes started to emerge. In the second stage of data analysis, the researcher re-read the interviews and

notes with the intention of writing memos in the form of short phrases written in the margin of the text. This process of coding was carried out in two phases. In the first phase, the researcher used 'holistic coding' according to Saldana (2009: 118). Holistic coding is suitable for beginning qualitative researcher. In this coding method there are no specific maximum length restrictions for data given a holistic code. After finishing the initial coding and getting a clear understanding of the nature of the data, the researcher is then moved to more specify coding. In the next phase of coding the researcher used the 'pattern codes'. Thematic analysis is recommended by Saldana (2009) as is further analysis of both 'holistic' and 'pattern' codes. In both coding processes the researcher is involved in highlighting a passage of data and connecting it with a line in the code written in the margin. At the coding stage it should be noticed that the researcher was following two methods in assigning names to codes. These were data-driven codes and the theory-driven codes. While coding data obtained from religious scholars semi-structured interviews the researcher was mainly relying on the data on hand by assigning names to different codes. On the other hand, in the coding data obtained from in-depth interviews, the researcher approached the coding process with some defined codes adopted from previous literature.

After finishing the identification of the code the researcher moved to the next stage of data analysis. At this stage the researcher started to identify the thematic framework and began writing memos in the margin of the text in the form of phrases that reflected concepts and ideas that arose from the text. After developing such phrases the researcher started to compare the memos either between or among participants. At this stage the researcher paid attention to the initial codes that had been developed and tried to arrange them into potential themes.

After developing the initial thematic framework the researcher checked the thematic framework to make sure of its congruence. At the next stage the researcher started naming themes. The final report followed. In the writing of the final report the researcher was trying to fit the pieces of the analysis together in an appropriate way so

that the final report would be able to tell a complete story of how Islamic religion could influence technology acceptance and how Muslim consumers perceive and adopt technology. To accomplish that goal, the researcher included selected quotes of interviewee's respondents to the researcher's questions.

6.4.2.4 Writing report

“The product of a thematic analysis is more than a list of themes and their descriptions. The product of a thematic analysis, like any qualitative analysis, includes both the important concepts and processes identified in the study and the overarching patterns of experience by which those concepts and processes are manifested” (Ayres, 2008: 868). In writing the thematic analysis it is important that the researcher tells the data collection and analysis story in a way that *“convinces the reader of the merit and validity of your analysis”* (Braun & Clark, 2006: 93).

Detailed analysis should be conducted and recorded for each theme. Each theme is telling a part of the whole story. Therefore, it is important that the researcher considers how each theme will fit into the overall story. By doing so the researcher will make sure that there are no overlaps between themes. Moreover, the data should be coherent within each theme, while *“there should be clear and identifiable distinctions between themes”* (Braun & Clark, 2006: 91–94).

“Choose particularly vivid examples, or extracts which capture the essence of the point you are demonstrating, without unnecessary complexity. The extract should be easily identifiable as an example of the issue. However, your write-up needs to do more than just provide data. Extracts need to be embedded within an analytic narrative that compellingly illustrates the story that you are telling about your data, and your analytic narrative needs to go beyond description of the data, and make an argument in relation to your research question”. (Braun & Clark, 2006: 93)

6.4.3 Credibility

“In qualitative research, trustworthiness has become an important concept because it allows researchers to describe the virtues of qualitative terms outside of the parameters that are typically applied in quantitative research. Hence, the concepts of generalisability, internal validity, reliability, and objectivity are reconsidered in qualitative terms. These alternative terms include transferability, credibility, dependability, and conformability” (Given & Saumure, 2008: 896). *“Trustworthiness provides qualitative researchers with a set of tools by which they can illustrate the worth of their project outside the confines of the often ill-fitting quantitative parameters”* (Given & Saumure, 2008: 896).

Maxwell (1996: 87) states that validity is *“the correctness or credibility of description, conclusion, explanation, interpretation, or other sort of account”*. In the case of interviews, Gay (1996: 242) indicates that validity is *“the degree to which interviews accurately reflect the feelings, opinions, and so forth, of those interviewed, and consequently, permit appropriate interpretation of narrative data”*. Lincoln and Guba (1985: 290), propose the following guidelines to establishing trustworthiness:

- (1) Truth value: this refers to how a researcher establishes confidence in the ‘truth’ of the conclusions of the study that has been carried out with a specific group of people in a particular context.
- (2) Applicability: this determines the extent to which the findings of the study could be obtained if the study were replicated with other contexts or with other groups (respondents).
- (3) Consistency: this means that the findings would be repeated if the inquiry were replicated with the same subjects in the same or a similar context.
- (4) Neutrality: this deals with the extent to which the participants and the conditions of the context determine the findings of the study, and whether they stem from the biases, motivations, interests or perspectives of the researcher.

Description can influence validity. The major threat to valid description is the inaccuracy or the incompleteness caused by a mistaken recording or misinterpretation of

the interview data (Al Salem, 2005). This problem can be solved through recording the interviews in a verbatim transcription. Therefore, the researcher should be aware of this while transcribing the interviews. Since almost all the interviews for this research have been conducted in the Arabic language, the researcher found it necessary to transcribe the interviews in the same language the interviews were conducted in. By doing so the researcher made sure that no important data was lost or misunderstood. In addition, all interviews were audio recorded to be sure that no data was missed.

Validity can also be linked to interpretation. One major threat that a researcher should avoid is “*imposing one’s own framework or meaning, rather than understanding the perspectives of the people studied and the meaning they attach to their words and actions*” (Maxwell, 1996: 899). Al Salem (2005) suggested the use of the *member check* strategy. According to Al Salem (2005), the *member check* strategy is useful for the researcher to avoid the problem of the researcher framework of meanings. In the *member check* strategy the researcher refers to the interviewees by seeking their feedback about the data they have provided in the interviews. The strategy was first proposed by Maxwell (1996) who believes that this strategy is important as it excludes any personal misinterpretations of someone’s meaning and perspectives. This strategy has been used through the data interpretation here. The researcher refers to the interviewees for confirmation of the issues that have been discussed. According to their comments the researcher’s interpretation of the data could be modified.

Researcher bias has an influence on qualitative research validity. In conducting the research there are possibilities of researcher bias, which may occur during data collection or through data analysis. With regard to the researcher’s attitudes to beliefs, the research topic may influence both the respondent’s answers and the researcher’s interpretations and conclusions. This bias may increase in qualitative studies, as the level of subjectivity of this type of research is higher. Maxwell (1996: 91) believes that it is hard to eliminate the researcher’s “theories, preconceptions, or values”. Therefore, it should be emphasised that the role of the researcher is not to eliminate his perspectives,

values and theories, but to be aware how these can affect the process and conclusion of the study (Maxwell, 1996). The researcher should adopt methods that may decrease or even eliminate such bias (Al Salem, 2005). Triangulation is one of the methods that can be used in qualitative studies to reduce researcher bias and increase the validity of the interpretation and the conclusions. The following section discusses the use of triangulation within this qualitative study.

The validity of a study can be raised through employing a variety of methods. This may not eliminate the low validity risk but it can help in increasing validity (Al Salem, 2005). One of the strategies used to increase validity by using various data collection methods is triangulation. According to Maxwell (1996: 93) triangulation consists of “*collecting information from a diverse range of individuals and settings, using a variety of methods*”. Gay (1996: 242) defines triangulation as “*the use of multiple methods, data collection strategies, and/or data sources*”. “*Triangulation involves sifting through documents, websites, test results, public relations materials anything that might substantiate or negate the stability of themes found from participant interview transcripts*” (Ayres, 2008: 869).

In order to employ triangulation in this research, the results of the in-depth interviews were compared to the previous literature in the field, one focus group was conducted, an online forum discussion was carried out, notes were taking and email follow-ups were sent to participants. The results of such methods are presented in appendix B-5. In addition, details of semi-structured interviews, email follow-ups, note taking, Internet searches about the announcements and ‘fatwas’ released by religious scholars were utilised, along with religious text analysis. These uses of multiple sources have established the triangulation needed to ensure a strong study result.

6.4.4 Ethical issues

Even though participation in the present study may not cause participants any physical, social, or economic harm, in conforming to the University of Strathclyde's ethical code of conduct, the interviewees were asked to sign a copy of the consent form (in appendix B1) before the process of interviewing. With regard to consent, the participant was asked for give permission to be interviewed. Furthermore, the participants were assured that their identity would be kept confidential, and that any information obtained from the interviews would not be used for any purpose except the present study. The consent agreement states that the participant has the right to stop the interview at any time and that he/she has the right to refuse to answer any question that they believe they do not want to answer. Moreover, participants were provided with a detailed description of the study. The respondents were asked to read the informed consent form carefully before they agreed to participate in the study.

6.5 Detailed discussions of the interview procedures

This section discusses the procedures that have been followed to conduct the two types of interviews used in the qualitative study of this thesis. The section starts by discussing the semi-structured interviews by presenting the justification, sampling and data collection process and data analysis for this type of interview. Then discussions of the justification, sampling, data collection and data analysis for the in-depth interviews follow.

6.5.1 Religious scholars' semi-structured Interviews

This section is discusses the religious scholars' semi-structured interviews procedures. The section begins by presenting a justification for the use of the semi-structured interviews, then proceeds to describe the way the interview guide was developed, and this is followed by explanation of the sampling approach and the sample selection procedures that have been followed in preparing for the semi-structured interviews. This section also presents some of the limitations of the religious scholars' semi-structured

interviews and the data analysis approach which is followed in this stage of qualitative study.

6.5.1.1 Justification of the use of the religious scholar semi-structured interviews

Internet-only banks were first established in the Western world and the only issues which have been considered in Western consumers were related to perception of risk, usefulness, ease of use and other issues related to social and human interaction. This case differs when we investigate the same phenomena in the Eastern world, especially in the Islamic world. In Islam, financial and commercial issues are highly related to what Muslims believe, so Muslims consider Islamic law when they are making any decisions about banking or commerce. This high level of involvement of religion in individual life in the Islamic world could influence their acceptance of banking services delivered through fully-automated delivery channels.

Religious scholars have a high status in the society. This status has been given to them by Allah (SWT) as referred to in the Noble Qur'an:

And we sent not before you except men to whom we revealed [Our message]. So ask the people of the message if you do not know. (16:43)

In this verse from the Noble Qur'an, Allah (SWT) commands people to ask religious scholars about issues of which they are not knowledgeable. The Prophet Mohammad gives religious scholars high status in the society as the following hadith states:

Abdullah bin mas'ud reported: Messenger of Allah (SWS) said "let those be nearest to me in salat (prayer) who are mature and possess (religious) knowledge, then those who are nearest to them in these respects" [Muslims] (Yusuf, 1999: 324)

From the researcher's understanding of the importance of Islamic religion on Muslims' behaviour, and the role of religious leaders in Muslims' daily life, as leader

(Imam) in their daily five prayers and as a reference in most of Muslims social aspects. The researcher is investigating a service that is highly related to Muslim religiosity, since financial services cannot be separated from Muslims' religious beliefs. Therefore, important issues such as gharar (risk / uncertainty) and tkaboth (hand to hand delivery) are the foundations of Islamic transactions. These issues have not been discussed in depth in the literature of technology acceptance. Hence, the researcher chooses to start the research qualitative study of this thesis by investigating the validity of Internet-only banks from an Islamic religious perspective by interviewing some Islamic scholars and asking them their opinion of this issue.

At this stage, the researcher is trying to understand if there are any prohibitions about Internet-only banks in Islamic religion and, if there are any, how they can be resolved to create benefits from the use of such banking services delivery methods.

6.5.1.2 Religious scholars semi-structured interview instrument development

Semi-structured interviews are conducted with Muslim religious scholars to obtain their opinions on Internet-only banks. The data obtained from literature reviews about the influence of Islamic law and e-commerce was helpful in designing the semi-structured interview questions guide. The interview questions were prepared in relation to the review of literature in Islamic banking, e-commerce and e-banking. The aim of the interviews is to get Muslim religious scholars' opinions of risk-related issues with Internet-only banks, the legality of e-contracting and how Islam refers to these issues. The key questions for discussion were:

1. How does Islam view uncertainty?
2. To what extent is the buyer and seller's presence in transactions important in Islam?
3. Does Islam motivate its followers not to adopt risky consumption behaviour?
4. How do they perceive Internet-only banks from an Islamic point view?

The first and the third questions aim to explore the influence of Islamic beliefs on Muslim consumers' acceptance of risk and uncertainty. The second and fourth questions were prepared to investigate the legality of Internet-only banks in Islamic religion.

6.5.1.3 Religious scholars' semi-structured interview sampling and participant selection

Semi-structured interviews were conducted with six Islamic religious scholars in Saudi Arabia. A small sample size is commonly used in qualitative research (Curtis et al., 2000; Miles & Huberman, 1994). The study employed expert sampling, which is a subgroup of purposive sampling. Purposive sampling is one of the most common sampling methods. In this method participants are grouped according to research question and the sample size may or may not be fixed before data collection (Miles & Huberman, 1994). The Muslim scholars have knowledge of both Islamic Shari'ah laws and Islamic banking practices. Three of the interviewees were members of Islamic banks' religious committees, including those of the Al Enma bank, the Al Jazirah bank, and the Al Belad bank. The other three were professors of Islamic economics and Shari'ah studies in two of the leading Saudi universities, King Saud University and Imam Mohammad University.

6.5.1.4 Recruiting the participants for the religious scholars' semi-structured interviews and the difficulties involved

In the first stage of the qualitative study, interviews with six Muslim religious scholars who are familiar with Islamic banking and e-banking were conducted. The decision about whom to include in this stage of the study was based in the accessibility of those religious scholars. The researcher has a social relationship with one of the religious scholars, which allows her access to the religious scholar interviewees. Before the interviews were executed, the researcher sent emails to religious and Islamic economics scholars that explained the objectives of the research, and some brief information about it, along with a copy of the semi-structured interview questions. After some confirmatory feedback had been received, the times for the interviews were arranged. It

needs to be mentioned that all scholars in the field of banks' religious committees (Shari'ah committees) are male and that most of the scholars in Islamic banking are also male. Due to the gender segregation policies in force in Saudi Arabia, this creates barriers for the researcher in conducting the interviews by herself. The researcher had to arrange for the assistance of a third party in order to conduct the interviews. This interviewer has been trained in how to conduct interviews and how to use probing in advance. Because of the use of an external interviewer and in order not to lose any important information, as well as making sure that the interviews have gone as planned, the researcher found it necessary to both video and audio record all the semi-structured interviews.

Table (6-4). Details of participants on religious scholars' semi-structured interviews

Interviewee	Position	Location of the Interview	Duration of the interview
DR M	PhD degree in Islamic Shari'ah study. Faculty member of Islamic University of Imam Muhammad bin Saud. Member of Islamic foundation for economic and finance.	Saudi Arabia , Riyadh	45 minutes
DR MA	PhD degree in Islamic Shari'ah study. Owner of Islamic financial practices control office. Member of Islamic foundation for economic and finance.	United Kingdom ,Wales	55 minutes
MR N	Degree in Islamic Shari'ah study. Member of Alzajerah bank Shari'ah committee. Member of Islamic foundation for economic and finance.	Saudi Arabia ,Riyadh	50 minutes
DR H	PhD degree in Islamic Shari'ah study. Faculty member of Islamic university of Imam Muhammad bin Saud. Member of Elenma bank Shari'ah committee. Member of Islamic foundation for economic and finance	Saudi Arabia ,Riyadh	60 minutes
DR O	PhD degree in Islamic Shari'ah study. Faculty member of Islamic university of Imam Muhammad bin Saud. Member of Islamic foundation for economic and finance.	Saudi Arabia ,Riyadh	65 minutes
DR Y	PhD degree in economic, and a degree in Islamic Shari'ah study. Ex-Faculty member of king Saud university. Member of Islamic foundation for economic and finance.	Saudi Arabia ,Riyadh	70 minutes

Before the interviews the interviewer asked the interviewees' permission to audio and video tape the proceedings. The interviewees were informed that they had the

right to withdraw from the interview at any time and to refuse to answer any of questions they did not want to answer. The interviewee also confirmed the privacy of all information which will be gathered and that this information will not be used for any purposes except the intended study. Interviews lasted from 45 to 70 minutes, and were audio and video recorded into mp3 and mp4 files. They were conducted in the interviewees' offices. Table (6-4), provides details about the interviewees and the length of the interviews.

6.5.1.5 Limitations of the religious scholars semi-structured interviews in this study

The limitations of this research method are mainly related to the sample size and sample frame. The sample could have involved a higher number of participants and included Islamic religious scholars from different countries and different Islamic denominations in order to increase the reliability and validity of the findings.

6.5.1.6 Religious scholars semi-structured interviews data analysis

Qualitative data from the interviews were analysed in order to shed light on important issues of the adoption and use of Internet-only banks from the viewpoint of the religious scholars. The semi-structured interviews examine the religious scholars' opinions in about the legitimacy of Internet-only banks from an Islamic perspective. Not enough research has been carried out regarding the influence of religious affiliation on technology acceptance, especially within the context of the Islamic religion. In this phase of qualitative data, the researcher is trying to answer the question of how religious affiliation may influence acceptance of technology. According to Braun and Clarke (2006), the approach involving identifying when there is insufficient literature is known as the inductive or 'bottom-up' approach. In this approach the researcher codes data without having a pre-existing frame to rely on. Thus the researcher is mostly driven by the data.

Since the available literature on the influence of religious affiliation on technology acceptance is relatively scarce, and the researcher did not have previous knowledge of the religious influence on technology acceptance, the thematic analysis in this phase of the qualitative data is more on the semantic level, as the researcher can be said to be identifying themes “*within the explicit or surface meanings of the data*” (Braun & Clarke, 2006: 84). In conducting the thematic analysis the researcher was aware of the ‘pitfalls’ referred to by Braun and Clarke (2006).

6.5.2 Muslim consumers in-depth interviews

This section concentrates on the discussion of the Muslim consumers’ in-depth interview procedures. The section starts by presenting a justification for the use of the in-depth interviews, this is followed by discussion of the way the in-depth interview guide was developed, then an explanation of the interviewees who were approached and the sample size, characteristics and selection procedures that have been followed in preparing for the in-depth interviews is provided. This section also presents the data analysis approach which is used in the in-depth interviews.

6.5.2.1 Justifying the use of in-depth interviews with Muslim consumers

Religion is a topic intimately related to personal feelings and emotions, so it is difficult to understand its influences in consumers’ attitudes and behaviours quantitatively. Although some researchers use the positivist approach to investigate religious influences in behaviours (Hirschman, 1981; McDaniel and Burnet, 1990; Sood and Nasu, 1995; Mokhlis, 2006), they were aware that religion is a complicated concept that is hard to be peritonealised because there are different beliefs and differences in individuals religiosity (Zinnbauer et al., 1997). One of the aims of this study is to study Muslim consumers’ attitudes toward and intentions to use Internet-only banks (IB). In-depth interviews are expected to provide rich conceptualisation of Muslim consumers’ adoption of Internet-only banks. As they allow the researcher to unearth new variables related to the Muslim countries context, that may not been recognised by previous

literatures in IB. Muslim consumers have strong religious belief along with high adherence to Islamic culture. This may affect their acceptance of IB in ways which may be different from other consumers' acceptance of IB in other cultures. Maybe the strongest support for using in-depth interviews comes from Kerlinger (1986: 446) who states that *"the best instrument available for sounding people's behaviour, future intentions, feelings, attitudes and reasons for behaviour would seem to be the structured interview"*. Moreover, *"qualitative interviewing has been particularly attractive to researchers who want to explore voices and experiences which they believe have been ignored, miss-reported or suppressed in the past"* (Byrne, 2004: 182). In reviewing literature in banking studies and e-commerce in Saudi Arabia, the researcher noticed that some of the studies utilise qualitative methods in their study of IB at the context of Saudi Arabia. These studies used either focus groups, or structured interviews but most of the studies were dominated by male participants. For example, when Al Mohaimmeed (2012), studied dormant online banking consumers in Saudi Arabia, he utilised the mixed methods research approach. In his qualitative study he conducted two focus groups six participants each, all men who had been recruited from a Saudi student club in Birmingham, UK. In his quantitative study only 27 percent of respondent was female. In the context of consumers' adoption of e-services in Saudi Arab, Al draehim (2013) conducted his study to investigate the factors that influence Saudi acceptance of e-service both in public and private services using the mixed method approach. He conducted focus groups and semi-structured interviews in his qualitative study- all with men. El Eid et al. (2009), studied the factors that affecting Saudi consumers' acceptance of e-commerce. In his qualitative study, he conducted 22 interviews, 12 of them were with male participants and ten were with female participants. In the field of banking services Al-shudukhi (1989), conducted research to investigate Saudi consumers attitudes toward banking services but all interviews were with male participants.

From the studies presented above it can be inferred that most of the studies conducted in the field of banking, e-service, e-commerce, and online banking within the context of Saudi Arabia were conducted by male researchers and dominated by male

participants and even the study conducted by a female researcher (Alshudukhi, 1989), was dominated by male participants. Al-shudukhi (1989) uses a male participant sample in her interviews. She relay her decision to include only men in her study to “*cultural barriers between men and women, it is usual for men to conduct all financial affairs although under Islam men and women finances are always separate*”. Several changes have happened in Saudi culture since 1989, and Saudi women have gained more education and are working in almost every type of job either in the public or private sectors in Saudi Arabia. This makes them more independent and have their own source income so the voice of Saudi women needs to be uncovered and there is a need for more deep understanding of Saudi women’s banking behaviour.

From the studies represented above it is clear that the voice of Saudi women was not fully represented in the previous studies that have conducted to investigate either e-commerce, e-service and IB in the context of Saudi Arabia. Previous studies (Karjaluoto et al., 2002; Wang et al., 2003; Riquelme & Rios, 2010) have referred to gender differences in regards to their perception of online banking. Therefore, in-depth interviews would shed light on the differences between the genders in their e-banking behaviour in the context of Saudi Arabia. In-depth interviews should allow the research to get closer to Saudi women and obtain their confidence to be able to gain more understanding of how they perceive e-banking and what are the benefits they see in it and what are the challenges they are facing in their e-banking experience. “*One of the important features that profoundly influence every aspect of public and social life in Saudi Arabia is the segregation of sexes. Segregation of the sexes is maintained physically, socially and psychologically. This segregation, which does not permit women to mix with unrelated men in Saudi Arabia*” (Al-Saggaf & Williamson, 2004). Because Saudi cultural restrictions make it difficult for a male researcher to approach female groups, the quality and the representativeness of the sample in general and the female sample in particular is influenced. Because of cultural norms Saudi women are usually more hesitant to participate in face-to-face interviews or focus groups administrated by male researcher.

As has been stated early in this section, religion is considered an intimate topic. Renzetti and Lee (1993), define a ‘sensitive’ research topic as one that is “*intimate, discreditable or incriminating*”. Religious practices can be described as “*private, stressful or sacred*” (Lee, 1993: 4). According to Dickson-Swift et al. (2007), religious-related issues can be investigated through sensitive research. Sieber and Stanley (1988:49 cited by Dickson-Swift et al., 2007: 1) define ‘socially sensitive’ research as, “*studies in which there are potential consequences or implications, either directly for the participants in the research or for the class of individuals represented by the research*”. Discussing the influence of religion on people’s lives can be considered as sensitive issue especially when this topic is raised with a conservative religious country as in Saudi Arabia. “*Religion and culture in Saudi Arabia not only shape people's attitudes, practices, and behaviours, but also shape the way they see and do things and perceive their lives*” (Al-Saggaf & Williamson, 2004). People in religious countries sometimes adhere to religious teachings as a response to social pressure rather than from personal decision. Therefore, there is a need to gain interviewees’ confidence in order to get to their real opinions about the influence of religion in their consumption decisions. As mentioned in section (6.5.2.2), after conducting the first focus group with Saudi women the researcher realised that group influence restricted the group members in representing their real opinion about the influence of religion in their banking activities. “*Many researchers of sensitive topics choose a qualitative design using the in-depth interview as their preferred method of data collection*” (Dickson-Swift et al., 2007: 7).

In addition, the in-depth interviews are important in this study to check that the questionnaire captures all the aspects of the constructs presented in the study’s conceptual model.

From the discussion above, it is clear that the in-depth interview is the most suitable method the researcher can use to get closer to Saudi consumers to unearth the factors that could motivate or restrict them in using Internet-only banks.

6.5.2.2 In-depth interviews instrument development

As an initial step toward the development of in-depth interviews, the researcher conducted one focus group and one online forum discussion. The focus group was established with seven females of different ages and different education levels. Three of the female participants in the focus group would be considered highly religious, while the other four participants are considered as intermediate in religiosity. The religiosity identification in all type of interviews was based on both the participants' self-characterisation and the researcher's observations. The group discussions lasted for 90 minutes and the end of the session, participants received a gift worth £20 each.

To recruit participants for the online discussion forum, a topic was posted for almost seven days for Saudi students who are living in the United Kingdom. Five male participants were interested in discussing the topic with the researcher. Each of the questions was posted for a day and had been available for full discussion before the posting of the next question. The participants in the discussion described themselves as Master's and doctoral students who had two bank accounts or more in both the United Kingdom and in Saudi Arabia. Unfortunately, two of the participants withdrew, leaving the researcher with only three people with whom to continue the discussion.

In both the focus group and the forum discussion, participants were collaborative and were very interested in answering questions related to their decision in opening bank accounts, what type of e-banking they often use, the usefulness and ease of use of e-banking, their opinion of the quality of Islamic banking services, and their awareness and their perceptions of Internet-only banks. However, when it came to the discussion of religious issues in regard to their behaviour and how religiosity may influence their attitudes and perceptions, participants were more conservative and less willing to elaborate in discussion.

This incident gives the researcher a hint about the usefulness of using focus groups as a qualitative research method for investigating the sensitive issue of religion. Therefore, the researcher followed Frankfort-Nachmias & Nachmias' (1996) advice for conducting an interview as a data collection method for the more sensitive issues. Yet, both focus groups and forum discussions illuminated for the researcher the kind of questions that should be concentrated on. This raised new questions that need to be discussed in depth in the next stage of qualitative data collection. Table 6-5 presents the questions which were asked in the focus group and forum discussion sessions. In addition, appendix B-4 presents some of the important issues that were raised through the focus groups and the forum discussion.

Table (6-5). Focus group and online forum questions guide

1. How would you describe a religious person?
2. Do you think that person's religious commitment could affect his/her behaviour in general? How?
3. Do you have a bank account at any commercial banks?
4. Is there specific reason for choosing this bank? (Mention).
5. Are you satisfied with the services provided by the bank you deal with? Why?
6. How many times you visit your bank's branch office?
7. What do you know about electronic banking services?
8. Have you ever tried any of the electronic banking services? How do you feel about that experience?
10. Have you ever tried banking online? How did you feel then? To what extent do you continue to make banking transactions online?
11. What may make you less interested in the use of banking services provided through the Internet?
12. How would you define Islamic banking? (Islamic banking services).
13. From your point of view, what distinguishes Islamic banks from other conventional banks?
14. Have you ever heard of virtual banks (Internet-only banks)? What do you think of this type of bank?
15. What may make you less interested in the use of banking services based entirely on the Internet (Internet-only banks)?
16. In the absence of Islamic banking services in the region where you live, are you ready to use virtual banks services as a means to gain access to Islamic banking? Why?

There are six basic categories of questions used in interviews (Patton, 1980). This study uses the Patton (1980) framework for categorising in-depth interview questions. The first category is background/ demographic information. (e.g., field of study or work). This category of question can produce some understanding of the interviewee's personal information, which may help in guiding the interview. The second category is experience behaviour questions. This category of questions aims to

assist the researcher in deciding on the type of questions asked according to the participant's experiences, behaviour and activities (e.g., talking about their experience and impressions of the e-banking). The third category contains the opinion questions. This category of questions aims to help the researcher discover the participant's goals, objectives, needs, and principles (e.g., "What benefits do you obtain from using Internet banking?"). The fourth category relates to questions about feelings. In this category, the researcher tries to understand participants' feelings, emotions and attitudes toward innovation (e.g., "What do you think of the Internet-only banks?"). The fifth category involves knowledge questions. These questions aim to help the researcher assess the interviewees' knowledge of innovation. The sixth and last category contains sensory questions. A researcher uses this type of question to target the participant's sense experience. The present study does not focus on this last type of question, although the other five types will be featured.

Each interview began with a brief explanation of the purpose of the interview. The interview aimed to explore current usage of e-banking, to investigate the awareness of Islamic and Internet-only banking, and to explore the factors which influence the adoption process in relation to the adoption of Islamic banking and the willingness to adopt Internet-only banks. There was also discussion of the barriers that may have influenced consumers in their use of IB, and their worries regarding Internet-only banks.

An interview guide (table 6-6) was used to direct and loosely structure the interview process. The guide was flexible enough to allow for modifications to suit each interviewee. Using an active interview approach (Holstein & Gubrium, 1995) new questions and directions are added or explored as the interviews were conducted. The general rule of thumb in an active interview approach was to let respondents' answers determine how closely the interview paralleled the interview guide (Meuter, 1999). Moreover, probing for more detailed responses was necessary and critical.

Table (6.6). Muslim consumers in-depth interviews guide

Describe in your own words how often you use Internet banking.
Tell me about when you first become aware of Islamic banking.
Tell me about when you first become aware of Internet banking.
Tell me about what happened after you become aware of Islamic banking.
Was there anything that encouraged or prevented you from using Islamic banking?
Was there anything that encouraged or prevented you from using Internet banking?
Tell me about the first time you used Internet banking.
How you rate Islamic banking in comparison with other forms of banking?
When was the last time you used Internet banking? Why?
Did anyone regularly help you when you used Internet banking?
Are you interested in branch banking? Why?
What type of Islamic banking finance method are you more willing to utilise?
What made you choose your current bank?

6.5.2.3 Muslim consumers in-depth interview sampling and participant selection

“The chief aim of sampling is to make an inference about a parameter that is unknown from a sample statistic that can be measured” (Al-shudukhi, 1989). Making inferences from the data is the object of sampling and must rely on a well-selected group chosen to be representative of the population. Probability sampling is the optimal choice since the results from the study can be generalised to the whole population. There are, however, circumstances where probability sampling is not an option. Non-probability sampling can be used where there is a limit on time and cost, although it does affect the validity of the findings. In less developed countries, however, even non-probability quota sampling is not applicable because of the lack of secondary data. In the case of Saudi Arabia, there is no available reliable list of the population. There is no sampling frame; the proportions of such factors as age, sex, income and education do not exist. Therefore, the researcher was forced to use non-probability purposive sampling. Here the sampling units are selected subjectively by the researcher who attempted to obtain a sample that represents levels of education, income, and religiosity. Another basis for selection was the length of time the members of the sample group had spent abroad. Some of the informants had been exposed to Western banking for a considerable length of time and were well aware of the differences between Saudi and Western banks.

For the purposes of this study, the desired sample is selected to provide an understanding of the variables that may influence consumers' adoption of Internet-only banks. The ultimate purpose of the sample is to assess the applicability of the proposed model and to generate a wide range of factors that may be influential in the adoption process. Purposive sampling (Saunders et al., 2007) was used in this study. This is a technique where the sample is not specified prior to the conduct of the interviews but is during the interviewing process. Those included in the sample are usually selected on the basis of the experience of previous interviews (Babbie, 2001). This sampling procedure is referred to as conceptually-driven sequential sampling (Miles & Huberman, 1994).

The purposes of this study required a sample of participants with different levels of experience of using Islamic banking and e-banking. To achieve this aim, a sample of Muslim banking consumers living in the United Kingdom and another sample of Muslim consumers living in Saudi Arabia were recruited. Because purposive sampling was used, the researcher did not establish the sample size in advance. Therefore, interviews will continue until saturation or redundancy is achieved in response (Lincoln & Guba, 1985).

Although the sample of in-depth interviews was not randomly selected and was not representative, the narrative provided by the participants suggested important insights into other Muslim consumers. The interview subjects came from different age groups, education levels, ethnicities, levels of religious commitment and both genders. To achieve the variability in the sample, as the interviews progress, the researcher worked on maintaining the variability of the research sample. And as an incentive for interviewees to participate they were paid £10 for participating in the 30–45 minute interviews. Table (6-7), provides details of the participants of the in-depth interviews.

All the in-depth interviews were conducted by the researcher and this helped increase the reliability of the interviews. Unlike Al-shudukhi (1989), who conducted her interviews with male interviewees escorted by a male relative, the researcher in this thesis conducted the interviews without a male relative accompanying her. As she believes the presence of a third person during the interview may influence the quality of data obtain from the interview and may affect interviewees' confidence. The data obtained from the in-depth interviews was collected over a two-month period. During this time, the researcher conducted 18 individual interviews. The interviews take place between June – August 2010.

Table (6-7a). Details of participants on Muslim consumers in-depth interviews

Name	Age	Occupation	Marital Statues	Computer Skills	Internet Skills	Education Level	Type of bank Account	Years lived in the Country	Country of Living	Sex	Religiosity	IB adoption
AM	36–45	Education	Married	Advanced	Advanced	BS	Current Islamic	Since born	Saudi Arabia	Female	Medium	NDI
MO	36–45	Education	Married	Medium	Medium	BS	Current Islamic	Since born	Saudi Arabia	Female	High	ADI
HE	26–35	Education	Married	Medium	Medium	BS	Current Islamic	Since born	Saudi Arabia	Female	High	ADI
ME	36–45	Education	Married	Medium	Medium	BS	Current Islamic	Since born	Saudi Arabia	Female	Medium	ADI
IB	46–55	Business	Married	Low	Low	Less than high school	Current Islamic	Since born	Saudi Arabia	Male	Medium	ADI
AH	56–more	Administration	Married	Medium	Medium	MASRE/PhD	Current Islamic	Since born	Saudi Arabia	Male	High	ADI
AS	18–25	Administration	Single	Advanced	Advanced	Diploma below BS	Current Islamic	Since born	Saudi Arabia	Female	Low	NDI
NA	46–55	Education	Single	Medium	Low	Diploma below BS	Current Islamic	Since born	Saudi Arabia	Female	High	NDI
BA	26–35	Administration	Single	Medium	Medium	Diploma below BS	Current Islamic	Since born	Saudi Arabia	Male	Low	ADI
SU	26–35	Student	Married	Advanced	Advanced	MASRE/PhD	Current Islamic	3–less than 6	UK	Male	Medium	NDI
HS	18–25	Student	Married	Medium	Medium	MASRE/PhD	Current Islamic	Less than 3	UK	Male	Low	ADI
LE	18–25	Student	Married	Advanced	Advanced	MASRE/PhD	Current/saving	3–less than 6	UK	Female	Low	ADI
ZA	18–25	Health care	Married	Advanced	Advanced	BS	Current	Since born	UK	Female	Medium	ADI
HM	18–25	Student	Single	Medium	Medium	BS	Current/saving	6 to less than 10	UK	Female	Low	NDI

Table (6-7b). Details of participants on Muslim consumers in-depth interviews

Name	Age	Occupation	Marital Statues	Computer Skills	Internet Skills	Education Level	Type of bank Account	Years lived in the Country	Country of Living	Sex	Religiosity	IB adoption
KL	26–35	Student	Single	Advanced	Advanced	MASRE/PhD	Current Islamic	Less than 3	UK	Female	Low	ADI
AB	18–25	Student	Single	Advanced	Advanced	BS	Current/saving	3–less than 6	UK	Male	Medium	ADI
HA	36–45	Student	Married	Advanced	Advanced	BS	Current	10 and more	UK	Female	Low	NDI
FA	26–35	Student	Single	Advanced	Advanced	MASRE/PhD	Current Islamic	Less than 3	UK	Male	High	ADI

ADI= adopter of Internet banking, NDI= not adopter of Internet banking, Internet-only banks

6.5.2.4 Recruiting participants and the difficulties involved

The planning for conducting the in-depth interviews started in January 2010. Before starting the interviews the researcher began the participants' recruitment process. The sampling approach and sample size for the in-depth interviews was discussed early in section (6.5.2.3) of this chapter. The recruitment of participants was not easy process, especially getting access for those in United Kingdom. Although online interviews were one of the options that were available, the researcher preferred the face-to-face interviews. As face-to-face interviews are more able to build the interviewees' confidence and trust in the interviewer (Dickson-Swift et al., 2007). The researcher was interested in interviewing Muslim consumers who had spent long time living in the UK, as she believe that living in foreign country that has different culture would influence the person's value structure. Therefore Muslim people who had lived three years or more in the UK were targeted for these interviews. All interviews with Muslims living in the UK were held in Glasgow, one of the largest cities in Scotland. In order to access the Muslim community in Glasgow, the researcher decided to post an ad in the Glasgow central mosque. In order to do this she talked to the mosque Imam, who was cooperative and helped her with that. Stated in the ad were the aim of the study, the confirmation of the confidentiality of the interviews and a promise of a voucher worth £10 along with the researcher's name, contact phone number, email address and the university at which she was studying. Within two weeks of the ad's being posted, the researcher received only one call from a prospective participant. This was disappointing and led her to visit the mosque in order to encourage people to participate in the study and give them more confidence in her as researcher. Visiting the mosque on Fridays gave the researcher the chance to get closer to prospective interviewees and she was able to recruit two men and one woman for the in-depth interviews. But the researcher realised that concentrating on recruiting Muslim participants from the mosque was not the right strategy as this deprived Muslims with low religious involvement the chance to be represented in the study. Normally high and medium religious Muslims are those who are more concerned

in praying in the mosque. Moreover, the researcher is interested in studying the influence of religiosity on Internet-only banks' acceptance, so recruiting participants online would be more suitable as it allowed the researcher to find people who are know how to use IT. The researcher posted ads to recruit participants, one on the Muslim community in Glasgow website (Glasgow Muslims) and another one on a website for Saudis studying in Glasgow. The responses to the online ad were much more satisfying. Those who contacted the researcher in response to the online ad were from different education, gender and age groups. By the end of the recruitment process in Glasgow the researcher was able to provide 25 prospective participants. As has been discussed earlier in section (6.5.2.3), the sample size for this phase of the qualitative study had not yet been decided and the goal is to continue the interviews process until the researcher reaches the saturation. The decision of with whom of the 25 people to start the interviews was made randomly.

The process for the recruitment of Muslim consumers who live in Saudi Arabia was much easier. In Saudi culture trust in a person is normally built on the person's family name and the educational institute the researcher is representing. The researcher in this study is a faculty member of one of the respected universities in Saudi Arabia, Qassim University. To get access to prospective interviewees there the researcher used her personal contacts to recruit participants for the study. This allows the researcher to be able to get access to people from different religiosity levels, genders, education and income. The researcher was able to recruit 30 people to participate in the in-depth interviews. As the case with the sample size for Glasgow Muslim participants, the sample size for in-depth interviews was not decided upon and the researcher continued interviews until she reached saturation.

6.5.2.5 Muslim consumers in-depth interviews data analysis

The task of data analysis is often considered difficult. *“The most serious and central difficulty in the use of qualitative data is the methods of analysis are not well formatted”*

(Miles, 1979: 590). Several approaches to data analysis are available in qualitative data analysis. In thematic analysis, there are two approaches to identifying themes: the deductive and the inductive (Braun & Clark, 2006). This phase of the qualitative study places emphasis on investigating the factors that may influence Muslim consumers' acceptance of internet only banks. The question of the acceptance of technology has been studied by several researchers, and there is wealth of literature in this field. Therefore, in this phase of qualitative study, the thematic development approach that tends to be used is the top-down or deductive approach. The researcher started coding this within a "*pre-existing coding frame*" (Braun & Clark, 2006: 82). Several codes were derived from reviewing previous literature in the field (e.g., perceived ease of use, perceived usefulness, perceived risk, perceived trust, previous experience, attitudes, intention, personal innovativeness, innovation characteristics, awareness and religiosity).

As mentioned in section (6.4.3), there are two levels of data analysis within thematic analysis. These are the semantic or explicit levels and the latent or interpretative levels. Following Braun and Clark's (2006) advice, the researcher was going beyond what was actually said. The researcher was not only describing what the interviewees said, but is more interested in examining the 'underlying' meaning and ideas of interviewees beyond what they say.

6.6 Summary

This chapter began with a discussion of the importance of adopting a qualitative approach in this thesis. Several justifications for the adoption of the qualitative approach have been illustrated in this chapter. Moreover, this chapter discussed the different qualitative methods used in this thesis. Thematic analysis was discussed in the chapter with illustrations of the way the thematic analysis will be applied for the qualitative data that have been obtained through the first phase of the research.

The next chapter (chapter seven) is dedicated to the results of data analysis of the two types of interviews conducted in the qualitative study of this thesis.

Chapter seven: Results and discussions of the qualitative study

7.1 Introduction

The previous chapter discussed various methods of qualitative data collection, and the data analysis procedures used in the qualitative study of this research. In addition, the previous chapter elaborated on thematic data analysis and its procedures. Furthermore, it justifies the use of different levels of data analysis and the type of qualitative data analysis used. Chapter six also discusses two interviews types used in this study in detail.

This chapter presents the results and conclusions of the qualitative study. The chapter concludes with a proposal for an initial model that will be tested in the quantitative study. This chapter starts with a discussion of the interview results, goes on to discuss the initial research model for this study and concludes with a summary.

7.2 Discussion of interviews results

This section of chapter seven discusses the results of the both types of interview conducted in the qualitative study of this research. The first subsection discusses the results of the religious scholars' semi-structured interviews and their conclusions. The second subsection concentrates on the results of the in-depth interviews with Muslim consumers and presents the conclusions.

7.2.1 Discussion of the results of religious scholars semi-structured interviews

In this section of qualitative results, the researcher concentrates on discussing religious scholars' views of Internet-only banks. Therefore, this section focuses mainly on presenting some quotes from the religious scholars' semi-structured interviews and on related discussions about Saudi Islamic religious acceptance of Internet-only banks. The following aspects of Internet-only banks and Islamic religion are discussed: the usefulness of Internet-only banks from the Muslim religious scholars' perspective, the

influence of religiosity on banking behaviour, the influence of religiosity on the acceptance of Internet-only banks, the permissibility of Internet-only banks from the Islamic perspective, the validity of e-contracts from the Islamic perspective, Islamic religion's perception of risk with the Internet-only banks, the influence of the Tkaboth (hand to hand) or the submission of the sold items on Internet-only banks' acceptance from the Islamic perspective, the safety, security and trust in the Internet-only banks, the existence of the bank, and the need for recognition by legal authorities for the Internet-only banks to be accepted from the Islamic perspective, and the Muslim religious scholars' attitudes to Internet-only banks.

7.2.1.1 The Usefulness of Internet-only banks from Muslim religious scholars' perspective

The Muslim scholars understood the importance of continuous improvement of Islamic banking processes and operations as a way to improve their quality. They also understood the importance of improving consumers' levels of satisfaction with Islamic banking services. Therefore, they realised the importance of implementing new control methods in order to monitor Islamic banks' practices and make sure that Islamic banking services comply with Shari'ah law. They believed that moving toward full automation of Islamic banks' services would be useful in this respect.

These Islamic Internet-only banks will meet the requirements and would fulfil the needs of those who couldn't get an access to Islamic banks in their country. Therefore, I expect that it will meet the need and will fill a gap in this aspect. (Dr O)

This pragmatic thinking is much like the way religious people from other religions (e.g., Christian) utilise the Internet to build virtual churches. Some Muslim religious groups have developed websites to give advice and spread knowledge about Islam. Muslim religious scholars understand the relative advantage of Internet-only banks, but not in the individual way as modelled by TAM. They actually believe that this type of banking delivery channel will be useful to the Muslim community, as it will

facilitate the distribution of Islamic banking globally. This perception of the usefulness of Internet banks by religious scholars supports Parboteeh et al.'s (2005) argument that there is a positive relationship between PU and religiosity.

7.2.1.2 The influence of Religiosity on banking behaviour

Highly religious Muslim consumers may sacrifice high quality service to fulfil their religious beliefs. Therefore they are willing to accept Islamic banks to satisfy their religious belief, even though they may be less effective and give less value.

People prefer Islamic banking according to a survey...about 90% of people in the Gulf area and in Saudi Arabia the percentage gets higher; they say that investors accept Islamic banks solutions even though if they may be less efficient and less value (Mr N)

This recognition of the importance of consumers' religiosity to facilitate Islamic banking deployment in the Islamic countries agrees with the conclusions of various authors (Erol & El-Boudr, 1989; Naser et al., 1999; Ahmed, 2004; Dar, 2004). On the other hand, Muslim scholars also realise the importance of innovation in banking services and the need to provide higher quality services for consumers. They also understand the differences in banking preferences among Muslim consumers and the influence of religious commitment in motivating Muslim consumers to adopt Islamic banking. But they also realise that this will not necessarily sustain the loyalty of Muslim consumers to Islamic banks, especially with regard to moves by conventional banks with their high service quality to provide Islamic banking services through 'Islamic windows'.

Muslim consumers differ in the criteria they follow in making their banking decisions. Those who are highly religious are more willing to accept high costs and poor quality in order to have access to Islamic banking. This happened in the early stages of the Islamic banks currently on the market. Therefore, it may be assumed that those who

are highly religious will be willing to accept Internet-only banks, if this is the only way to access to Islamic banking services.

The type of Islamic banks consumers who prefer the banking according to religious belief will find that they should adopt Internet-only bank if this bank is trustful, but there are another type of consumers who are there and they deal with Islamic banks those who don't have religious commitment those will not (Dr M).

7.2.1.3 The influence of Religiosity on the acceptance of Internet-only banks

The Muslim scholars were optimistic about the future of Internet-only banks and the benefits they could provide to Muslim consumers in the global market. Muslim religiosity is expected to drive Muslim consumers to adopt this new technology to obtain access to Islamic banking. Obedience to religious teachings reflects a person's religiosity, so it could be argued that the more religious the person is, the more wary and sceptical he or she will be about the extent to which the banking service is in compliance with religious teaching.

Religious commitment has a role in acceptance of Islamic banks....I think the Islamic side has an effect in that... I think the customers will accept the Internet-only banking services if it allows them to access to Islamic banking services. (Dr MA)

On the other hand religious scholars were about sceptical whether religiosity was a factor that may influence consumers' intentions to use Internet-only banks and whether it was important motive for Muslim consumers living in less developed countries. Therefore, they drew attention to the development of technologies, the lack of Muslim consumers' computer skills, and their trust in technologies in these countries. Therefore, in order for Muslim consumers to adopt Internet-only banks, religiosity needs to be linked to powerful and trustworthy technology. Thus, Muslim consumers living in developed countries are more likely to accept such new technology, in comparison to those who are living in less developed countries. So, religiosity influences consumers'

attitudes to Islamic banks but this influence may not be strong enough for them to use Internet-only banks as a way to fulfil their religious beliefs.

If we assume we have establish Islamic Internet-only bank in a community where there is no traditional Islamic bank, are people going to use it, motivated by religious believe I think in the beginning this bank will face problems, because people in Arabic and in third world usually, don't trust, there is no enough trust in technology. (Mr N)

Internet-only banks can be an alternative to traditional banks with electronic delivery channels, but still there are some doubts that Muslim consumers will leave traditional banking and move to Internet-only banks if there are not enough incentives for them to do so. This draws attention to consumers' beliefs in the need for such banks. The banks could develop incentive programmes to motivate consumers to accept such a service.

If the Internet-only banks prove their abilities to apply shari'ah laws and their financial abilities to conduct banking in proper way, then they may motivate Muslims minorities in non-Islamic countries when there are no Islamic banks to deal with. (Dr H)

The religious scholars felt that Internet-only banks can work as an alternative to traditional banks but not as a substitute for them. They also thought that this type of banking may succeed only if traditional banking is not available to consumers. This religious scholar's preconception of Internet-only banking may be related to the cautious approach of such banks.

7.2.1.4 The permissibility of Internet-only banks from the Islamic perspective

The Islamic religion does not prohibit any transaction unless it can be shown that it may have a negative influence either on the person or the society, as in the case of usury, interest rates, gambling or any other transaction that may lead to taking someone else's money unjustly, as mentioned in the Noble Qur'an,

O you who have believed, do not consume one another's wealth unjustly but only [in lawful] business by mutual consent. And do not kill yourselves [or one another]. Indeed, Allah is to you ever merciful. (4:29)

Therefore, all transactions are permissible in Islam unless they violate Islamic religious values of justice. Thus it could be said that Internet-only banking is permissible if it does not violate Islamic principles.

The origins of the transactions are permissible. (Dr M)

Religious scholars would not prohibit Internet-only banks if they followed Islamic principles. They also trusted the Islamic banks' abilities to solve the problem of 'hand to hand' conditions through e-currencies.

At first glance I think there are no specific problems with banking services being on the Internet or as Internet-only...The fact that they use modern technology, or are very directly makes no difference from a legal point of view a legal aspect, especially with the development of the technical side in the expression of the coins and the hand to hand (tkaboth), and in the accounts. Therefore, electronic money almost becomes more important than paper money. (Dr M)

Being compliant with Islamic law (Shari'ah) is the essence of the legitimacy of Islamic Internet-only banks. Therefore, religious scholars will not validate Internet-only banks unless they follow Islamic principles. Islamic law organises and controls all financial transactions and provides a main standard for any financial service or operation so that to be acceptable to religious Muslims is to be complaint with Islamic laws with no violations or malpractice. The same applies to Internet-only banking. Therefore, it can be concluded that Muslim clergies will not validate Internet-only banks if these banks are not following Islamic principles.

There is nothing in the sharia'ah law restrict such transactions, as long as they are completely agree with general Islamic principles and the Islamic basic rules in sharia'ah law: the prevention of usury, prevention of uncertainty and risk (gharar), prevention of ambiguity (jahalh), the prevention of eating up people's wealth unlawfully (fraud and deception). (Dr M)

The scholars' point of view was that it did not matter if the service was being provided at branch level or online. What really makes a difference is the type of products and services being provided and the extent to which these products and services follow Islamic principles, in regard to the type of transactions and the procedures used in handling the transaction.

You should know the type of items are they prohibited or lawful in the original. In this there is no different between Internet contracts and any other contracts. (Dr O)

This opinion supports Zainul et al.'s (2004) argument about the importance of e-commerce being compliant with Shari'ah law in order to succeed in Islamic countries.

7.2.1.5 The Validity of e-contracts from the Islamic perspective

The literature review referred to the question of the validity of e-contracts in the context of e-commerce, particularly with IB where risk and uncertainty may be higher. Not enough studies have been done. For that reason the researcher went beyond what was available in the literature and chose to ask Islamic scholars for their opinion about such issues.

Even though there was much concern in the literature regarding the absence of the contract parties at the place of contracting, it was believed that the contract member's acceptance of 'ejab' and 'ghabol' was acceptable in ensuring contract validity in Islamic law. The issue of the formula of acceptance does not state that it is necessary for the contract members to meet face-to-face in the same place. It was enough to satisfy the acceptance through written or electronic communication. Therefore, the presence of the two parties to the contract in one place during the contracting process was not seen as being essential in Islamic law.

There is no condition in Shari'ah law that requires the presence of contract parties at the site of a contract. (Dr M)

E-contracts conducted through messengers or videoconferences are legitimate in the Islamic religion (Alzaagy, 2007). The most important is the clarity of the description and that enough information is provided between the two parties to the contract, rather than the place of meeting for the contract. Also, a full transmission of the necessary information must be related to the contract between the contracting parties.

Therefore, any of the contracts that I mentioned, whether through a video, Internet, or by any means of communication media that make the information transmitted between the parties in full, or almost full, regarding the subject and the price of the contract, thus becoming a legitimate means for this contract between them. (Dr Z)

For any contract to be accepted in Islamic law there should be some acceptance and satisfaction by the two contracting parties.

It is not a requirement that the parties exist in one place, but the basis of a contract in Islamic jurisprudence is mutual satisfaction. (Dr H)

E-contracts are acceptable in Islamic law, as nothing in Islamic law requires the presence of the contracting parties in one place during contract execution, but it cannot be said that all e-contracts are valid from an Islamic perspective. There are certain roles should be followed in order for the e-contract to be valid in Shari'ah law. A clear description of the sale items should be provided on the website and in the case of IB there should be a clear description of the services provided, the conditions, the limitations and any other information related to the delivery of the services. Those descriptions should be written in clear and understandable language, without the use of specific terms which may not be easily understood by ordinary bank consumers. Moreover, the price of the service should be specified and any information about further charges should be explained.

One of the conditions is a condition of validity, which means that in principle it is permissible, but with the availability of other conditions. The sales should be known, the price should be known and any other conditions should be fulfilled. (Dr O)

7.2.1.6 Perception of risks in the Internet-only banks in Islamic religion

The degree of risk and the certainty of the existence of such risk is a determinant of a religious leader's advice for their followers as to whether to use or be aware of Internet-only banks. Religious scholars perceive the different types of financial risks on the Internet as including the risk of fraud and hacking, but they believe that those types of financial risk can be managed through security and safety regulation, which the bank is responsible for providing. They usually see performance risks related to the delivery and the display of the financial services on the bank's website and they consider these types of risk as very important for the validity of contracts with the service provider.

'Gharar' is one of the perceived risks of Internet-only banks from Islamic view (El-Gamal, 2002). Not all 'gharar' is prohibited in Islamic law, but what really determines the prohibition of the transaction in Islamic law is the degree of risk or 'gharar'. Financial risk in Islam can be divided in two:

1. Gambling is defined as when the probabilities of the outcomes of a transaction are less than 50 percent and the chances of loss are more than 51 percent. Gambling is highly prohibited and considered as a sin and the work of Satan. As the Noble Qur'an states,

O you who have believed, indeed, intoxicants, gambling, [sacrificing on] stone alters [to other than Allah], and divining arrows are but defilement from the work of Satan, so avoid it that you may be successful. (5:90)

2. 'Gharar' has been commonly translated as 'uncertainty' or 'risk' while others have translated it as 'hazard'. Whatever the translation, 'gharar' refers to a case in which the seller may deceive the buyer. There are several cases of 'gharar' in Islam and

different sources of ‘gharar’. ‘Gharar’ has been prohibited according to a strong hadith, narrated by Muslims like Ahmad, Abu Dawud, Al Tirmidhi, Al Nasa’i, Al Darami and Ibn Majah on the authority of Abu Hurayra, “the Prophet (pbuh) prohibited the pebble sale and the *gharar* sale”.

Scholars define ‘gharar’ as a thing that cannot be delivered or what is between default and good. (Dr O)

While there are several sources of ‘gharar’ (El-Gamal, 2002), in the context of Internet commerce the Muslim scholars referred these sources of ‘gharar’ as ‘gharar’ due to uncertainty of the delivery of the items sold, and the other source is related to unclear descriptions of the items sold.

‘Gharar’ is an important consideration when dealing with Internet-only banks. From the Islamic perspective high risk may affect the validity of any contract and may be a reason for terminating it. It is the degree of ‘gharar’ (uncertainty/ risk) which is important, not the existence of ‘gharar’ itself. In Islam, high risk is highly discouraged. Taking on very high risk is considered to be unforgivable. Uncertainty of delivery or outcomes are considered as risks and referred to as ‘gharar’. The higher the uncertainty and the related risk, the more probable it is that the transaction will be prohibited in Islamic law.

Thus the Muslim must always avoid the risk as much as possible. Therefore, Islam forbids high ‘gharar’ and forbidden any transaction that is based on high ‘gharar’ but allows low ‘gharar’. (Mr N)

What I see is that there are no differences in the contracts between the offline contracts and the online contracts, If ‘gharar’ is prohibited in the practical contracts then the same applies to similar contracts conducted via the Internet or electronic contracts, and vice versa. (Dr H)

The Islamic religion is not against taking risks. But in some situations where the probability of outcome is very low and when there is deception for one of the contract parties, the Islamic religion considers such risk unacceptable.

There are degrees of 'gharar' which are high, medium and low. High 'gharar' is unforgivable, and affects the validity of the contract. Therefore, it is important to provide the means to make the delivery possible. (Dr O)

Even though high risk is not acceptable in Islamic law, it should be emphasised that Islamic law understands that risk cannot be entirely eliminated from any transaction, it prohibits high risk while regarding low risk that can be managed as an aspect of any business operation. From this perspective, Internet-only banks can be perceived as lawful in Islamic law if the degree of risk they use in their banking delivery method is within the low risk category.

Actually there is no need to totally dismiss 'gharar' from any contract in order for it to be valid, because any contract may contain some sort of 'gharar'. Shari'ah law concentrates on high 'gharar' and prohibited it, but when it comes to low 'gharar', this is forgiven. (Dr Z)

High risk with a high uncertainty of outcome or delivery is considered gambling in Islamic law. Gambling is highly forbidden in Islam, as a verse in the Noble Qur'an mentions, and as has been discussed in section (4.2.6.4). Therefore, it is not acceptable for Muslims to be involved in high financial risk. Hence, if Internet-only banks contain any element of gambling or if there are any speculation that may be considered gambling or involvement in gambling transactions, they would be prohibited from an Islamic perspective. Thus, it could be concluded that Internet-only banks cannot be validated for Muslim consumers if they are conventional banks because of the type of the transactions conventional banks are usually involved in (e.g., derivatives trading), and the only way that Muslim scholars will validate such bank service delivery methods is if they provide Islamic banking services.

If a bank cannot deliver banking services to its consumers for reasons related to its inability to do the job, this can be considered as 'gharar', which is prohibited in Islamic law. The high risk of not being able to deliver the service can be considered as gambling, which is totally prohibited in Islam. Also 'gharar' can be related to a description of banking services which uses unclear language or more specific banking terms that may not be understood by ordinary bank customers.

The item offered for sale is not clearly specified; therefore it is not permissible to sale on credit. Also the items may be of limited duration in the lease, 'Gharar' exists there. (Dr M)

If the probability of delivery is below 50% or 50% then we enter into some degree of 'gharar' until we reach the highest degree of 'gharar' which is gambling, where we are paying something, and we have a probability of one in a million that we will get something in return. (Dr Me)

Moreover, there is another important issue in assessing 'gharar' from an Islamic perspective, which is the identity of those who are involved in the transactions. Such people should be easily known to each other. If the e-transaction involves less well-known parties the transaction may involve high 'gharar' and may be considered to be gambling, which is highly prohibited by Islamic law.

When we look at to one of the definitions of 'gharar', we find that 'gharar' involves not knowing what is it going to happen, so if the electronic commerce contains any risk of this by for example, dealing with an unknown person or conducting banking transaction with a non-reliable or unknown party... then 'gharar' may be present. (Dr O)

In addition, one of the sources of 'gharar' in Internet-only banking can be linked to the lack of security in the bank websites. The Muslim scholars thought that the absence of security or the low security of the website could be considered as one of the sources of 'gharar'. In this case 'gharar' is related to the high privacy risk.

A process contains high 'gharar' when it has a lack of encryption security on the site, or a lack of the kind of security certification that is widely recognized in the area of electronic commerce.

This absence or the lack of generally accepted security requirements in electronic commerce on a website may lead to an increase in risk... whenever the risk on the website increases, the acceptability of Internet-only banking starts to decrease. (Mr N)

‘Gharar’ can occur when the service description is not clear. If the service does not conform to the customers’ expectations, (which have been developed by the service description in the service provider website), then this is also considered as ‘gharar’.

Risks (gharar) that may occur because of receiving sold items which have not been described on the website (Dr MA)

Sometimes a lack of clarity of wording or clear display of an offer on a provider’s website may lead to gharar. Also the website may use some terms which may not be understood by common consumers. (Dr M)

‘Gharar’ can be present in Internet-only banking because of the inability of the bank consumer to deal with an Internet-based service because they lack the requisite skill. In this case consumers may be easy deceived by the service provider because of their lack of knowledge of how to deal with the website.

For Internet-only banks there will be some ‘gharar’ because these banks are new open in the market and so far not all banks’ consumers may know how to use the relevant information, deal with it or even access it...but when consumers developed their skills to get the information and documents, in this case it would be acceptable and it would be treated as with traditional Islamic banks. (Dr Z)

7.2.1.7 The influence of the Tkaboth (hand to hand), submission of the sold items in Internet-only banks acceptance from the Islamic perspective

Hand to hand (tkaboth, immediate or instant exchange) is very important in Islamic commerce, especially with regard to currency exchange, or the gold and silver trade. Therefore, it is very important that various key issues that should be considered when banks in Islamic countries plan to move to Internet-only banking. If the Internet-only

banks do not satisfy the ‘hand in hand’, condition this means their transactions are prohibited by Islamic (Shari’ah) law. Islamic scholars will never advise their followers to use any bank that does not meet all Islamic law commands. As has been stated in the following hadith,

Narrated by Ibn Shihab: Malik bin Aus said, “I was in need of change for one hundred dinars. Talha bin Ubaid-Ullah called me and we discussed the matter, and he agreed to change (my dinars). He took the gold pieces in his hands and fidgeted with them, and then said, ‘Wait till my storekeeper comes from the forest’. Umar was listening to that and said, ‘By Allah! You should not separate from Talha till you get the money from him, for Allah’s Apostle said that “the selling of gold for gold is Riba (usury) except if the exchange is from hand to hand and equal in amount, and similarly, the selling of wheat for wheat is Riba (usury) unless it is from hand to hand and equal in amount, and the selling of barley for barley is usury unless it is from hand to hand and equal in amount, and dates for dates, is usury unless it is from hand to hand and equal in amount.” (Sahih bukhari).

The ‘hand to hand’ issue is an important criterion for the validity of sales contracts in Islam (e.g., Murabahah). A Murabahah contract is a well-recognised sales contract and has been defined as, “*an Islamic financing structure, where an intermediary buys a property with free and clear title to it. The intermediary and prospective buyer then agree upon a sale price (including an agreed upon profit for the intermediary) that can be established through a series of instalments, or as a lump sum payment*” (Investopedia, 2011).

The issue of ‘hand to hand’ may not be recognised as an obstacle to traditional transactions as it is in online transactions. In online banking transactions ‘hand to hand’ is important in loan contracts, as most of the Islamic banks rely on sales such as ‘Murabahah’ to finance their clients. There is also the issue of the importance of the bank to owning the good before they transfer its ownership to the client in a ‘Murabahah’ contract. In other standard transactions such as cash deposits, withdrawals, and bill payment, Muslim religious scholars believe that Islamic banks would not face problems in moving to full automation.

Certain regulations and procedures should be followed when doing business in Islamic law. Even when the transactions take place online the procedures should not be violated because this may influence the validity of the contract under Islamic law. One of these standards of the progress of a transaction in Islamic law is the term ‘tkaboth’, which refers to the need for ‘hand to hand’ submission to confirm the transaction. There are also the standards of consistency which mean that the description of the displayed service or product should conform to the features of the delivered product or service.

In Islamic banking we talk about finance and investment, funding of the financing companies, investment and financing formulas and services etc., from the types of transactions; for example Murabaha, instalment sales or other sales. In these types of transactions the person should not sell an item until he/she hold it (tkaboth) so that when the contract is conducted through the Internet we should make sure that the ownership of the item has been transmitted from one party to another and that the buyer really receives the item under contract (tkaboth). In such a case we can say the contract is completed. (Dr O)

7.2.1.8 The safety, security and trust in Internet-only banks

Muslim religious scholars respect clients’ right to privacy and safety within e-transactions. Therefore, they refer to certain conditions that must be met for Internet-only banks to be acceptable:

- 1). Meeting the electronic specifications of trust and maintaining client privacy.
- 2). The real existence of such a bank and it not being totally virtual.

The trustworthiness of a bank’s website is one of the important standards for the validity of the IB contacts in Islamic law. And as high risk and high uncertainty are prohibited in commercial Islamic law, Muslim religious scholars see trustworthiness, security and legal certification as important factors that are needed to decrease risk and uncertainty and make the Internet acceptable as a delivery method from a Shari’ah perspective.

They must have contained all the security requirements and regulatory and legal, so they can be used. There must be a legal umbrella for them. By this I mean being organized by means of legislative bodies in the country that deal with them and allow them to work. They must have a means of protection in the form of security certificates. But security certificates are not enough on their own. There is also a need for protective regulations. So they must also have protective systems that ensure a high degree of protection from viruses and other security breaches. (Mr N.).

The degree of security and safety regulations provided by a bank in its website is an important determinant for the suitability of dealing with such a bank from an Islamic perspective. The trustworthiness of the bank refers to its credibility, whether it provides enough information, and the efficiency of its management. This is important for the legitimacy of the Internet-only bank. Acceptance of Internet-only banks from an Islamic perspective is restricted by the bank's ability to provide and maintain secure websites. If the bank fails to satisfy this condition, Muslim consumers will be prohibited from dealing with this bank's website.

If the website which the consumers deal with through the Internet is known and trustworthy and secure and the bank has been recognized by local authorities, it is permissible for consumers to deal with it. But on the other hand if the bank is not known and it is not trustworthy and it did not provide a secure website, this may lead to a loss of money. (Dr Z)

7.2.1.9 Existence of the bank, and the need for recognition by legal authorities for the Internet-only banks to be accepted from the Islamic perspective

Since transactions in Islamic law should be between well-defined and recognisable parties to avoid risk, there is a need for the physical presence of the service provider in order to decrease the chances of dealing with an anonymous participant. The physical presence is also important to build trust and confidence among consumers even if they may not visit the bank in person. From the Muslim religious scholar's point of view there is a need for the physical existence of a bank, even if it is minimal. This physical

appearance will make the bank trustworthy especially if it is linked with legal identification and authorisation by national and international financial authorities.

Internet existence can be enough if they decide not to have an office where they keep documents but there should be a representative office for them somewhere in the world where they keep tangible documents. It is not enough to keep only electronic documents, there should be some place where the bank actually exists in the world. There is no need to have an office in every country to establish contracts, as contracts can be conducted online without any need for the customers to visit the bank offices. (Dr Z).

The Muslim religious scholars realised the importance of legal accreditation from independent international authorities for recognition and for the Internet-only bank to be considered trustworthy and accepted by Muslim consumers.

I think the legal risk should be covered by having legal entity can be accounted...and after that come the deposits, transfer of money and the credit card issues. (Dr M)

7.2.1.10 The Muslim religious scholars' attitudes to Internet-only banks

The Muslim religious scholars realised that conventional banks provide high quality services compared to Islamic banks. They also mentioned issues such as Islamic bank services facing the problem of moving their processes to full automation, which can take a long time and be particularly complex. This influences their efficiency in providing high speed services to their customers. The slow adoption of the full automation option by Islamic banks is related to religious concerns, as mentioned earlier in this chapter. As long as hand-to-hand and related issues have not been resolved by Islamic banks, the idea of adopting fully-automated banking methods may be unrealisable. However, adopting conventional Internet-only banks is not acceptable as these banks rely on un-Islamic trading methods.

Islamic banks still face problems in moving towards full automation of their processes, I mean transferring their operations electronically. Today most of Islamic banking operations are still conducted manually and the procedures are long and complex. (Mr N)

Despite such problems, Muslim religious scholars hold positive attitudes to the idea of the full automation of Islamic bank operations and processes, while also realising the potential advantages of such a change in eliminating human mistakes and violations. This may indicate that Muslims religious leaders support the idea of Internet-only banks and influence their followers' attitudes to this delivery method in a positive way.

I think if Islamic banks move towards full automation of their processes this will cause a decrease in many legitimacy contraventions which exists now in the Islamic banking operations as a result of human mistakes and violations. (Mr N)

And although, some Muslim religious scholars held positive attitudes to the idea, they still have some doubts about the probabilities of its implementation in the near future, especially in the Arabic and Islamic world. This pessimistic view is really rooted in a realistic evaluation of the technical abilities of Islamic banks in Muslim countries.

First I found it strange to discuss this idea it is a modern idea. OK it suits the era and the current electronic advances but we couldn't find it reflected as a reality in the Arabic and Islamic worlds, even in the advanced world. (Dr MA)

Muslim religious scholars believe that the reputation and brand name of a bank are important to success of any Internet-only bank. Therefore, Muslim religious scholars expected that an Islamic Internet-only bank may succeed if Islamic traditional banks move to being Internet-only. In this case they think there will be more potential for success than in the case of a new bank being Internet-only.

What I see is that there is no chance to apply Internet-only bank but there is a chance of developing the current banks to be like the described Internet-only bank (Dr MA)

7.2.1.11 Conclusions about religious scholars' semi-structured interviews

Muslim religious scholars understand the prosperity of the Islamic banking and the high potential for success for these banks. On the other hand they emphasise the importance of information technology (IT) for Islamic banking operations and the need to find new methods to control Islamic banking operations to make sure they really working in compatibility with Islamic (Shari'ah) law and to eliminate any violations that may occur during the practice of Islamic financial solutions. They also realise that the full automation of Islamic bank services may restrict and limit any human mistakes and violations, which are the reason for many unauthorised Islamic banking practices. Therefore, Muslim religious scholars value the idea of fully-automated banking services, as the case of Internet-only banks, because they believe these banks may help in reaching the goal of eliminating all human violations in conducting Islamic banking.

On the other hand Muslim religious scholars have some standards that need to be met in order to validate the use of full automation of banking services within the Islamic banking context. These include allowing hand to hand delivery of objects in the 'murabah' contract, limiting the degree of 'gharar' by providing sufficient information about the bank's services and conditions in a clearly recognisable way on the bank's website. The Internet-only bank should be operating according to Islamic Shari'ah law.

From the above discussion it could be concluded that Islamic religion has an influence on Internet-only banking acceptance by imposing some conditions on it. Islamic religion also influences Internet-only banks' acceptance through its effect on its followers' perceptions of risk, through its prohibition of high risk and types of sales and transactions that may contain certain types of high risk. Therefore, bank representatives should be aware of the importance of complying with Islamic law when they are planning to introduce Internet-only banking services in Muslim countries. In addition it should be clear that the implementation of technologies in Western countries is different

from their implementation in Islamic countries because of the differences in religious teachings.

It is clear from the discussion that Islam religion is not against the utilisation of technology. Islamic religion encourages Muslims to seek knowledge and build the earth. *“Islam's emphasis on learning. This is obvious when one takes a look at the Qur'an and the traditions of Prophet Muhammad (PBUH) which are filled with references to learning, education, observation, and the use of reason”* (Syed, 2009). What is clear from the discussion is that what concerns religious scholars are the banking practices and the ways banks implement the technologies. Therefore, Islamic religion contributes to shaping banking services and banking methods of delivery by setting boundaries and restrictions on the types of transaction and operation that may be used to design and provide banking services in ways that protect and maintain consumers' rights.

7.2.2 Results of Muslim consumers' in-depth interview analysis

This section elaborates on the results of the analysis of the data collected in banking consumers' in-depth interviews. The section concludes with a discussion of the interviewees' IB acceptance behaviour in relation to the following issues in relation to Muslim consumers and e-banking: awareness and adoption of e-banking, willingness to accept Muslim religious leaders' advice, influence of gender in their e-banking preferences, perceptions of the usefulness and ease of use of e-banking, perceptions of the privacy of the e-banking, preferences in e-banking methods, attitudes to e-banking, need for human interaction in their banking, the importance of getting access to Islamic banking through e-banking, the social influence effect in Muslim consumers' acceptance of e-banking, preference of branch banking, perception of risk and their level of trust in IB, need for the bank to have a physical presence, personal innovativeness, previous experience in e-banking.

7.2.2.1 Muslim consumers' willingness to accept religious leaders' advice

Highly religious people emphasise the importance of considering religious leaders' opinions in their daily life. They also consider the importance of taking religious leaders' advice before choosing to deal with any bank. They are also willing to take religious leaders' advice about using new banking methods such as the use of e-banking delivery channels. The religious leaders play an important role in religious people's attitude development, as people respect their opinions. The religious leaders' influence on behaviour and attitudes strengthens with regard to the products and services the consumers are exposed to. When a decision is related to adopting financial services, the role of religious leaders is vital for Muslim religious people. They generally believe that following religious leaders' advice will fulfil their religious faith.

“Religious leaders have a role in developing Muslim consumers' positive attitudes towards a bank. Just mentioning Islamic banking makes a person go towards a bank. Religious scholars' opinion is very important in attracting people attention towards one bank and leaving another bank” (HE, female, SA, ADI)

Even though some religious people believe that religious leaders may not be knowledgeable about technological aspects, they still respect their opinions and are willing to follow their advice.

“Religious leaders' opinions are important sometimes, but their awareness of e-banking is limited and sometimes contradicts with reality. However we should take the religious opinion into consideration before we make a decision about any financial transaction or any bank” (AM, female, SA, NDI)

Those who are high in religiosity are willing to give up dealing with the banking system if religious leaders tell them that this is not acceptable from an Islamic point of view. They also are willing to accept religious leaders' advice even if it may affect their own benefits.

“I would not use e-banking if a religious scholar told me it was risky, or if it might get me involved with interest based transactions. We should listen to them. We should obey ‘Allah’ and the Prophet and those in authority” (AM, female, SA, NDI)

They also believe that religious leaders have broader knowledge and they mostly respect older religious leaders who have broad experience in several financial issues.

“Yes, yes. We listen to religious leaders. Speaking for myself, I listen to their advice and follow them about 90% of the time because they represent religion and they are supporting their claim with ‘Allah’ sayings and ‘Prophet’ sayings”. (NA, female, SA, NDI)

“If I received straight forward advice from a reliable religious leader, I would withdraw all my money from the bank and keep it at home”. (MO, female, SA, ADI)

This importance the religious people give to religious leaders’ opinions is mentioned in the research (Kalliny & Hausman, 2007; Muhamad, 2008; Hashim & Mizerski, 2010).

On the other hand, consumers who are low in religiosity usually do not consider religious opinions on their banking. They believe that religion has no role in banking, and that there are no differences between banking transactions whether they are carried out through technological media or traditional media. They also reject the idea of excessive use of Islamic terms in banking, as they believe that Islam has been misused to deceive bank clients and to attract them to Islamic banks, even though these banks may not necessarily be practising Islamic laws in their banking transactions.

“I am not harming anyone, and I am not taking interest. I will not listen to religious leaders. I am not doing any of these things, so why are they telling me that I am wrong?” (KL, female, UK, ADI).

“I will not stop my life because this not acceptable. It is not acceptable to destroy all your transactions to be religiously committed” (LE, female, UK, ADI)

Moreover, those who are low in religiosity tend to listen to those religious leaders who are the softest in their religious opinions and when they search for ‘fatwa’ in the Internet, and listen to religious advice they usually pick the advice that increases their own benefits. When it comes to technology they criticise religious leaders’ interference in this field and consider religious leaders’ opinions in this regard as being conservative as the religious leaders have limited understanding of technology and therefore have less logically acceptable opinions.

“Because when he says Internet banking is risky maybe he did not have the same experience. I would say I will not stop using it just because someone like him is not willing to take the risk”. (ZA, female, UK, ADI).

It could be argued that those who are more religious will be more inclined to listen to religious leader’s opinions and advice about to e-banking, while those who are less religious will be less inclined to accept religious leaders’ advice and opinions.

7.2.2.2 Muslim consumers’ adoption of e-banking

Consumers differ in their levels of adoption of e-banking. Some adopt all methods of e-banking, starting with using ATMs and progressing to phone banking then to IB. They are willing to adopt Internet-only banks if they follow religious standards. On the other hand there are different types of consumer who either choose to adopt only one or two of e-banking methods: mainly ATM and phone banking. And even in their adoption of these two e-banking methods they are not fully utilising all services and options for such banking methods. For such people IB is either not needed, as they are satisfied with the current methods, or they have some fears about the use of IB.

Those who are already adopting IB usually rely on the Internet to accomplish a range of operations.

“Checking my statements and paying my credit fees if any, transfer money if purchasing from an account to my current account online”. (ZA, female, UK, ADI)

“Transferring money, paying bills, buying net cards, paying government fees; we do everything through Internet banking”. (HE, female, SA, ADI)

The degree of religiosity has not influenced interviewees’ acceptance and adoption of e-banking methods. E-banking provided by Islamic banks has not been restricted by any religious leaders. In contradiction of previous assumptions that highly religious people are less willing to accept innovations, it seems that almost all highly religious interviewees were using e-banking methods provided by Islamic banks and those who had not yet used IB attributed it either to having had a bad experience in using the Internet or to not needing to use the Internet as they were satisfied with phone and ATM banking.

“I hate the Internet...I started to hate transferring money through Internet banking.” (NA, female, SA, NAI).

7.2.2.3 Muslim consumers’ awareness of e-banking

A bank is the only source of e-banking services information for interviewees in UK. For those in Saudi Arabia, there were additional sources of information as most of the interviewees referred to a friend, peer, or a family member as a way to be informed of e-banking services.

“When I opened my second account they gave me a booklet. In it were my passwords and phone banking instructions.” (AM, female, SA, NAI)

“When you first visit the bank they give you a booklet. In it you find all information about services. Also, customer services representative usually talks to you and tell you about these services.” (AB, male, UK, ADI)

7.2.2.4 The influences of Gender in Consumers e-banking preferences

While there are no differences between males and female in their e-banking preferences in the UK, there are some differences between interviewees in Saudi Arabia. Even though men and women in Saudi Arabia value the usefulness of all e-banking methods, male interviewees prefer ATMs as they rank them first in their e-banking preferences followed by IB, with less preference for phone banking. On the other hand females prefer to use phone banking and IB rather than ATMs in their banking transactions. These differences in preference can be attributed to the freedom of mobility allowed for men compared to women in Saudi Arabia, as females are not allowed to drive cars and there is a lack of public transportation.

“I am more interested in phone banking because I feel it is easier for me.” (AS, female, SA, NDI)

“You know for us women sometimes we do not have chances to go out.” (MO, female, SA, ADI)

“I don’t know, because few females go to ATMs. That is why I say I wished that they delivered money to our houses. It would be easier.” (HE, female, SA, ADI)

On the other hand, other women who have already adopted IB value the Internet since it allows them to visualise the options that allow them to carry out processes in a more effective way, rather than waiting to listen to different options as in the case of phone banking. They also reveal that their ability to view a bank statement and all options gives them a feeling of trust about transactions.

Women in Saudi Arabia rank the method according to accessibility and many consider phone banking as the most accessible to them, while men in Saudi Arabia consider the ATM more accessible. These contradicting views can be attributed to cultural factors as Saudi Arabia can be characterised as a masculine culture where males have more control than females and this is reflected in the time males spend away from home compared to females.

“Because women in general found it hard to go out of the home...these things are available I mean phone, and Internet these things make it easier for us.” (AS, female, SA)

This different view of accessibility between men and women was not seen in interviewees in the UK as both men and women benefitted from the same degree of freedom of mobility there.

7.2.2.5 Muslim consumers’ perceptions of the ease to use e-banking

Both male and female interviewees understand the ease of use of all of e-banking methods. But those in Saudi Arabia, especially females, consider phone banking much easier to use since it has an easier password procedure which makes it easier to remember compared to the more sophisticated Internet password and access procedure. Females also recognise phone banking as being much easier and more flexible than ATM banking and they believe that phone banking is more accessible as phone and mobiles are available everywhere. They also find it less time consuming compared to IB as one needs to turn on a computer and sign in to the bank’s website to be able to use IB. Some females refer to some restrictions in using the Internet in their houses or do not have the Internet. Males can go to any Internet cafe but females are not allowed to do the same. Therefore, females in Saudi Arabia see that phone banking is much accessible to them.

“It is more flexible (referring to phone banking) than ATM because while I am at home I just dial up on the phone and get all the information.” (AM, female, SA)

“In these days cash cards make things easy, especially for depositing money. I used to deposit money and within 2 to 3 days it was in my account (talking about his experience of using ATM in Saudi Arabia).” (FA, male, UK, ADI).

Those who had already adopted IB had not found any difficulty in using it as the website instructions are clear and require minimum computer skills.

“Thank Allah, it is very easy. I just follow instructions and that is enough. If I know nothing I just follow instructions and thank Allah I have succeeded.” (HE, female, SA, ADI)

7.2.2.6 Muslim consumers’ perception of usefulness of the e-banking

Interviewees in the UK and Saudi Arabia valued the usefulness of all e-banking methods. They referred to the accessibility, convenience and speed of using these methods. A particular issue was the convenience of IB, as most interviewees referred IB as being more convenient than any other banking method. They also perceived it as being less time consuming. As in IB there is no queuing or waiting time. Moreover, interviewees believed that IB is effortless and does not expose them to severe weather conditions, as does the use of branch banking.

“Why should I go to the bank branch while I can do the same transaction online, when it takes me only two minutes.” (LE, female, UK, ADI)

“It serves you straight away. You do not need to queue for the service, and you do not waste time. When you are at home sitting on your chair you do everything.” (AH, male, SA, ADI)

Interviewees who had already adopted IB believed it was highly efficient in accomplishing the job. It allows the user to confirm the transaction not by listening to the instructions, as the case of phone banking, but through seeing them on the screen. They also appreciate the printing option to all transactions.

“Internet banking is more advanced than phone banking. Instead of listening, as you know listening sometimes is not enough. (In Internet banking) everything in front of you is described.” (ME, female, SA, ADI)

“The disadvantage of phone banking is that it is too slow, especially in its first introduction, every transaction has its own code.” (HE, female, SA, ADI)

Interviewees also perceive the usefulness in IB in being available 24 hours a day. Therefore, they can all carry out banking transactions at any time without needing to leave their work or ask someone to help them do their banking(e.g., some ladies who may ask their 12 year sons to cash their money).

“I can do all what I need from my bank at home while I am drinking my cup of tea and looking after my children.” (MO, female, SA, ADI)

7.2.2.7 Muslim consumers’ perceptions of privacy in e-banking

Most of the interviewees did not see any privacy risk in using e-banking which contradicts the references in the literature where it was said that people fear using the Internet because it may interfere with their privacy by allowing uncontrolled access to their personal information. Saudi females refer to phone banking and IB as being more reliable ways of safeguarding their privacy. This may be attributed to their understanding of privacy or to that they are not really realising the risk of hackers’ abilities to access their personal information.

“Sometimes you do not want others to know that you are going to the ATM.” (MO, female, SA, ADI)

“I think phone banking gives me more privacy and it is safer than going to the branch, because staff sometimes are not trustworthy. They may give your account information to someone.” (AM, female, SA, NDI).

7.2.2.8 Muslim consumers’ preferences in e-banking methods

As it has been mentioned previously (section 7.2.2.4) Saudi females prefer to use phone banking and IB rather than using ATM or branch banking. But even within these two options, Saudi females differ. As some of them realise IB is more useful and easy to use and therefore prefer it to other e-banking methods.

“I don’t use ATMs to transfer money. I started with phone banking and now I am using Internet banking.” (ME, female, SA, ADI)

Other females consider IB as being more complicated and time consuming.

“Sometimes it takes time, sometimes the website is down... I prefer phones. When the phone call gets disconnected I call back. It is better than entering the password and having to turn the computer on and waste electricity. This is time consuming.” (AM, female, SA, NDI).

7.2.2.9 Muslim consumers’ attitudes to e-banking

Some interviewees held positive attitudes to all e-banking methods, while others had some discomfort in using either certain e-banking methods or all of the e-banking services. These positive and negative attitudes to e-banking are not attributable to educational level or religiosity. The interviews were conducted with interviewees from different religious and education levels but the results in regard to attitudes showed that these variables did not make any difference.

“ATMs may give me the same services as phone banking but I am not psychologically confident with them.” (AM, female, SA, NAI).

“If I need to know anything I just go to the bank branch. If I need to withdraw money or to check my account, I just take the bank card and go to the branch. I do not like to use the technological methods.” (HA, female, UK, NAI).

Those who have positive attitudes to certain e-banking methods are more willing to adopt them. In contrast, those who have negative attitudes hesitate to use such e-banking methods.

“Great, it saves a lot of time. It is more than great (referring to Internet banking).” (ME, female, SA, ADI)

7.2.2.10 Muslim consumers' need for human interaction in their banking

Some types of operation influence consumers' needs for human interaction. The more standardised, repetitive, and simple the operation is, the less need there is for face-to-face interaction. But in situations where there may be high uncertainty or may involve dealing with large amounts of financial transactions, consumers prefer to deal with bank staff face-to-face.

“Because for example I have been applying for funding for something, if I have been calling for an overdraft or something, I need to go and speak to someone and say why this happened or even just discuss my banking. It is nice to have a human being I can talk to.” (ZA, female, UK, ADI)

“Sometimes things happen with the bank and sometimes you call them, they keep you on hold for hours and hours. My pressure get high and I need a person to talk to.” (HA, female, UK, NDI)

Some avoid human interaction because they have had negative experiences with service employees in the bank. Those who are less interested in human interaction prefer e-banking to face-to-face encounters with service providers.

“I know what you mean. Service encounters, customer services are not necessary... those branches are not important any more. Honestly you can do anything at home, why you need to go out?” (HE, female, SA, ADI).

7.2.2.11 The importance of getting access to Islamic banking through e-banking

Many of those in Saudi Arabia who adopted Islamic bank services were highly religious but some of them were less religious. Customers differ in the criteria they adopt for choosing a bank. While more religious consumers emphasise on that the bank should be Islamic and follow Shari'ah law in all transactions, along with having a Shari'ah committee that controls and monitors all its process and operations. Also, they are willing to compromise e-banking services to get access to Islamic banking. Less religious consumers emphasise other criteria such as the number of branches, the quality

of services and the cost of services. They usually give little attention to being Islamic or make this as the least important criterion in their ranking of banks.

Moreover, those who are more religious tend to have positive attitudes to Islamic banking,

“The halo of religion is enough, it gives you the feeling that you are not cooperating with unlawful activities.” (AM, female, SA, NDI)

Those who tend to be low in religiosity and do not adopt Islamic banking usually hold negative attitudes toward Islamic banks and are less willing to switch to the existing Islamic banks. They prefer to deal with conventional banks, even if these banks contradict their religious beliefs.

“I am a convinced that the only change is in the terms. They change interest to profit, ‘ijarah’ or whatever.” (LE, female, UK, ADI)

It is also clear that those who are low in religiosity have less awareness of the real goals of Islamic banking,

“The only difference I know is in interest, and I do not know more” (HS, male, UK, ADI).

On the other hand, those who are high in religiosity understand clearly the practices and objectives of Islamic banking, so they are more convinced by the banking system,

“In Islamic banks there is no places for interest; I mean trading in money, except in Islamic ways. However, conventional banks they trade with debts and carry out unlawful transactions. This means you cannot trust their transactions” (HE, female, SA, ADI)

Most interviewees were aware of the existence of Islamic banks. Some of those from Saudi Arabia were more aware of Islamic banks and most had bank accounts or

more in an Islamic bank. This, however, may be related to the number of Islamic banks in Saudi Arabia and the fact that such banks dominate the banking market there. But the interviewees in UK were less aware of the existence of Islamic banks even though they were aware of the existence of Islamic banks in parts of the world.

“It just I have to pay any attention to whether there are any Islamic banks.” (ZA, female, UK, ADI)

The awareness of the differences between Islamic and conventional banking was not clear to most interviewees, either in the UK or Saudi Arabia. Even though some of those who were high in religiosity were aware of the real differences, most of them were not.

“I prefer Islamic banks. Even if the conventional banks are more popular they will make profit from my money and I will be considered to be helping this unlawful business.” (MO, female, SA, ADI)

for those who are high in religiosity the practice of Islamic banks can help in developing positive attitudes toward the idea of Internet-only banks, as the only reason for them to be attracted to such a bank is its Islamic direction,

“I think all banks should offer Internet services. But being Islamic is the real reason which may make me more attracted to it.” (FA, male, UK, ADI).

The presence of Islamic bank practices did not make a difference to those who are low in religiosity. Some of those less religious interviewees were not convinced by the idea of Internet-only banks. Therefore, they were not willing to accept these banks, even if they were the only way to access Islamic banking. For those who were willing to accept Internet-only banking it did not make a difference for them if it was Islamic or not. What really made a difference was the high quality and low cost of the services provided by such a bank:

“It seems nice, but sometimes you feel... How can I trust them? I do not.” (AS, female, SA, NDI)

On the other hand more religious Muslim consumers were not willing to use Internet-only banks unless it was the only option available for them to get access to Islamic banking. This was because they were already satisfied with the e-banking services provided for them by Islamic banks,

“No I will not take this adventure I am satisfied with my existing situation I do not have more expectations...this is a new bank and I am not sure is it going to stand or not.” (HE, female, SA, ADI)

But in general there are several standards should be met before they decide to move to Internet-only banks. First, these banks should be Islamic. Second, the bank should be reliable and with good reputation and accreditation from the national authorities. And finally, it should be one of the banks that have been working in the market for long time. Most Muslim consumers have high trust in the bank they are already working with, therefore they did not see any problem in using their present bank’s online service. But most doubt they will adopt a new bank which has been newly introduced to the banking market, even if it provides them with high quality and low cost services.

“I will use the Internet. This is normal, because if I trust the bank and I am an old client of them. If they change the system I will not be the only one affected by that change, a group of people will be affected .” (HE, female, SA, ADI),

On the other hand, those Muslim consumers who live in UK and are low in religiosity prefer to have face-to-face interaction whenever they need it and are not willing to sacrifice that to get access to Islamic banking services. This may be related to their lower awareness of the idea of Islamic banking or to their negative attitudes to Islamic banks.

“I do not think that would appeal to me, because I like to visit the branch when I need it.” (ZA, female, UK, ADI)

7.2.2.12 Social influence effect in Muslim consumers’ acceptance of the e-banking

All interviewees referred to the influence of other members in their decisions, either in choosing a bank in first place or when using any of e-banking methods. The different attitudes of men and women were plain to see. While women refer to male relatives as a source of influence in their decisions, along with others as peer and friends, men seldom refer to female relatives as an influence on their decision. This difference may be related to the strong role of males within family in Islamic culture, which may be inherited from the cultural roots as men are considered to be responsible for most aspects of women’s lives.

“My older brother used it and he trusted it for years. When I was worried about using it he said it was handy and safe, so I started using it,” (ZA, female, UK, ADI)

7.2.2.13 Muslim consumers preference of the Branch banking

It was clear that most of those who adapted e-banking services were not interested in visiting bank branches except for dealing with urgent issues. They believed that e-banking satisfied most of their banking needs and they did not find they needed to visit the branch office any more.

“Once or twice a year, no more than that.” (MO, female, SA, ADI).

“I seldom went to the bank branch.” (LE, female, UK, ADI).

In some cases consumers found themselves forced to visit the branch office for some banking services which they could not accomplish through e-banking (e.g., applying for loans, withdrawing and depositing money or transferring money beyond the limited e-amount).

“When I face problems, for example when I lose my cash card or need a bank statement.” (HS, male, UK, ADI).

“I visit the bank branch when I need to apply for a loan.” (MO, female, SA, ADI).

“If I have very important business I visit the bank branch. This is usually only if I want to deposit money or withdraw cash beyond the limit of the ATM.” (LE, female, UK, ADI).

7.2.2.14 Muslim consumers perceptions of risk in the Internet banking

Those who are high in religiosity often have strong faith in Allah. This strong belief makes them take risks, as they believe that Allah will protect their money. This high level of trust in Allah is reflected in their willingness to accept Internet-only banks if it is their only option to access Islamic banking.

“I lost my money! I would not lose it if Allah did not say it.” (NA, female, SA, NDI)

“Maybe one fears but we say we have faith in Allah, we trust Allah that nothing bad will happen.” (ME, female, SA, ADI).

It was clear that those who had advanced computer skills were more aware of risk in the Internet environment. Those who have medium skills believed in the bank’s ability to protect them against any risks. Those who were aware of the Internet risks were less willing to adopt IB.

“Because of hackers and other risks I feel afraid. Even though I have a degree in computer science I still have fears about access to information.” (HA, female, UK, NDI).

“There is nothing to be afraid of. Even if something went wrong and I would refer to the bank. Thank ‘Allah’ nothing happened to me.” (ME, female, SA, ADI).

“That is right. One may feel afraid of Internet banking because of security and because of mistakes at the beginning, but I try to be careful.” (FA, male, UK, ADI).

7.2.2.15 Muslim consumers' trust in Internet banking

Indeed, trust was an important factor for most of the interviewees. Trust can be seen from different angles as interviewees have different type of trust. One of them is trust in the technology in general. Those who believe that people can control technology have no fear of adopting such technologies.

“Thank Allah since the system is secure and has been studied. And who developed the system? Are they human? Therefore I trust the system.” (HE, female, SA, ADI).

While those who have less trust in technology are willing to use technology to the minimum.

“No way will I use the Internet or phone banking. I don't trust them. I will never feel comfortable in using them. But I trust the cash card.” (HA, female, UK, NDI).

Other sources of trust are related to the Internet. Many consumers use some e-banking methods but still hesitate to use IB, because they do not trust the Internet as a reliable service delivery channel.

“I don't trust the Internet. I do trust the bank, therefore I use phone banking. If I didn't trust the bank I would never use phone banking, but right now I do not trust the Internet. I don't feel it is safe yet.” (AM, female, SA, NDI)

However, some consumers trusted the bank as a service provider. Their trust in the bank is reflected by their willingness to adopt the bank's online services, because they believed that the bank would provide them with a secure website and maintain their privacy. They also relied on previous experiences of bank clients who have faced some security problems but whom the bank refunded for misplaced transactions.

“Our contract with (...) bank states that if the bank fail to secure their website, they should be responsible for all of our losses.” (HE, female, SA, ADI).

“I have a mobile banking services. If anything happens regarding my account, the bank will notify me .” (IB, male, SA, ADI).

7.2.2.16 Muslim consumers’ need for physical representation of the bank

Interviewees who were less willing to adopt Internet-only banks believed in the importance of the physical presence of the bank. They believed that this would give them more confidence and trust in the bank. And it would also allow them to be in physical contact if necessary.

“If I need to use Internet-only banks, I need to feel some physical existence of the bank and have face-to-face interaction, including asking questions.” (LE, female, UK, ADI).

“There should be at least one small branch to receive people and check on papers to make sure they are official.” (KL, female, UK, ADI).

“For example, there are eBay and Amazon are websites but still they have buildings where they store books and products, somewhere in the world. It may be a website I am dealing with when I open an account but still there are buildings and staff.” (AM, female, SA, NDI).

7.2.2.17 Muslim consumers personal Innovativeness

It appears that some of the highly religious Muslim consumers were more innovative and this made them among the first people to adopt IB. This high innovativeness in highly religious Muslim interviews can be attributed to the Islamic teaching that encourages seeking knowledge and benefits from it.

“Maybe at the beginning I am the one who influenced them. Because I am the one who used it at the beginning. As I told you I love to discover any new things and I love the electronic transactions very much.” (FA, male, UK, ADI).

“I am an adventurer. I love challenges.” (MO, female, SA, ADI).

7.2.2.18 Muslim consumers' previous experience in e-banking

Consumers' previous experience of other e-banking methods, or the experience they gain through their use of IB has an influence on their perceptions of risk, their fear of making mistakes, their perception of usefulness and their perception of ease of use of technology.

“I have become an expert, there is no chance of making a mistake now. Therefore, there is no chance of feeling frightened.” (KL, female, UK, ADI).

7.2.2.19 Conclusions about the in-depth interviews

Interviewees differ in their understanding of the meaning of religiosity. Although most interviewees in either UK or Saudi Arabia considered themselves as highly religious Muslims, they were not necessarily aware of the real meaning of religiosity. Interviewees in Saudi Arabia were generally more religious than those in the UK. This relate to the background of some of the interviewees in the UK as some of them came from Islamic countries where religious pluralism is allowed, such as Iraq, Egypt, and Lebanon. The idea of accepting an interest rate or opening a savings account was out of the consideration of all Saudis, interviewed either in Saudi Arabia or in UK, but in the case of Muslim interviewees from other Islamic countries who were interviewed in UK, most had one or more savings accounts with a conventional bank in the UK.

None of the interviewees referred to religion as a reason for not adopting e-banking. This can be explained by the real reasons that make religious people reject technologies. Those religious people who were against the diffusion of the Internet often referred to their fears of the effects of technology on their values and belief system. And as e-banking has no threatening influence on social values they did not feel there should be any restrictions on it. But on the other hand such fears of the effect of technology on traditions and values may influence people's acceptance of IB indirectly. Some people may have negative attitudes to the Internet and they usually make some restriction on the

accessibility of the Internet at home. This may affect some women's ability to use IB within Islamic countries, as in the case of Saudi Arabia.

The differences between interviewees in Saudi Arabia and those in UK in regard to e-banking methods can be viewed according to the differences in preference of usage of each of the e-banking methods and according to their awareness of the e-banking services. Interviewees in Saudi Arabia used phone banking more than interviewees in UK. The low preference for the use of phone banking among interviewees in UK can be related to language barriers as English was a second language for some of them.

In regards to the utilisation of ATMs, the interviewees in Saudi Arabia, especially men, used them for a range of transactions including paying bills, transferring money and depositing money. However, those in the UK generally only used ATMs for cash withdraws or mobile top-ups. This can be related to the type of ATM used in each country as the ATMs in Saudi Arabia are more sophisticated and include more service options than those in the UK.

The bank was the only source of e-banking services information for interviewees in the UK. Those in Saudi Arabia had additional sources of information as most referred to a friend, a peer, or a family member as helping them become informed about e-banking services.

While there were no differences between males and females in their e-banking preferences in the UK, there were some differences between interviewees in Saudi Arabia. Even though males and females in Saudi Arabia value the usefulness of all e-banking methods, male interviewees preferred ATMs and females preferred to use phone banking. These differences in preferences can be attributed to the freedom of mobility allowed for males compared to females in Saudi Arabia, as females are not allowed to drive cars and there is a lack of available public transportation there.

On the other hand, other females who are already adopted IB value it, since it allowed them to view the options and carry out processes in a more effective way, rather than waiting to listen to different options as in the case of phone banking. They also revealed that their ability to see a bank statement gave them a stronger feeling of trust on the completion of a transaction.

Therefore, it can be concluded that perceived risk, low trust in technology and technology providers, awareness of the benefits of technology, belief in the complexity and usefulness of the technology, less experience in using technology and the need for the human touch may restrict consumers' acceptance of Internet-only banking services.

7.3 Developing an initial research model

Findings from the qualitative research and the review of literature in chapters two, three, and four provide support for the proposed conceptual model to be presented in the end of the current chapter.

A preliminary review of the literature suggested that TAM, which is the basis of much of the research into IT diffusion, could be useful for a study undertaken in a developing country. However, it may need to be extended to include specific issues related to external factors that may participate in the individual IT adoption decision. Some of these factors may not have received enough attention in the existing literature on IT adoption, as most of this research was conducted in developed countries for which the technology was originally created. As indicated in chapter one, the main research question addressed in this thesis has involved the need to increase the understanding of the important factors that could influence the adoption and usage of Internet-only banks in Islamic countries. There are not enough studies to explain how these factors affect Internet-only bank adoption in Islamic countries (e.g., Saudi Arabia). The study was therefore undertaken with the primary aim of identifying, examining and providing an understanding of the factors that could explain the behavioural intention to use Internet-only banks in Islamic countries such as Saudi Arabia.

Unfortunately, the in-depth interviews of this study did not reveal any new factors that influence consumers' acceptance of Internet-only banks other than those that have been discussed by previous literature of the IT acceptance. However, qualitative data analysis results help in making decisions about which factors of IT acceptance could be included in the current research model. Table (7-1) indicates that there are many factors that previous IT literature has recognised as influencing consumers' adoption of technologies. It also indicates that not all of these factors have been mentioned by interviewees in this study as a factor that may motivate or restrict them from using Internet-only banks. Therefore, the use of in-depth interview help in focusing the attention of this study on the factors that considered more important from the point view of Saudi banking customers.

An interpretation of the results of the data analysis from both the semi-structured and in-depth interviews leads to a new understanding of the acceptance of new technology in the form of Internet-only banks in the financial sector of Saudi Arabia. This research recognises that many factors could affect the success and effectiveness of Internet-only banks in less developed countries. The interviews confirmed that "usefulness" and "ease of use" are still the main factors in affecting people's attitudes and intention to use a technology. However, the interviews clarified what exactly these broad terms meant in the use context. In addition, the in-depth interviews help in clarifying the relationships between Muslim consumers' religiosity and their perception of ease of use, usefulness, trust, need for human interaction and their attitudes and intention to use Internet-only banks. Moreover, the interviews shed light on the importance Muslims give to religious leaders' advice on their banking activities. This helps the researcher to determine the relationships between Muslim consumers' attitudes to IB and their willingness to accept religious leaders' advice. The in-depth interviews also confirm the influences of consumers' previous technology experience in their perceptions of ease of use, usefulness, risk and trust in Internet-only banks. The in-depth interviews were useful in providing the researcher with more understanding of how

awareness influences consumers' intention to adopt IB. They help the researcher to understand how Muslim consumers gain information about e-banking in general and IB in particular, and how their awareness enhances their perceptions of ease of use, usefulness, and risk of the Internet-only banks. Moreover, the semi-structured interviews shed light on the influence of Islamic teaching on determining the prohibition or permission of the use of Internet-only banks.

Table (7-1). Factors influencing IB adoption identified by the literature and the in-depth interviews

Variables	Identified by:	
	Literature	Interviews
System characteristics:		
Perceived usefulness	Yes	Yes
Perceived ease of use	Yes	Yes
Compatibility	Yes	Yes
Visibility	Yes	Yes
Trialability	Yes	Yes
Image/interface	Yes	No
Perceived attractiveness	Yes	No
Screen design	Yes	No
System quality	Yes	No
Terminology	Yes	No
Web security	Yes	Yes
Perceived privacy	Yes	Yes
Channel cost	Yes	No
Perceived risk (time, performance, social, financial)	Yes	No
User personal characteristics:		
Demographic characteristics (age, income, education, gender).	Yes	Yes
Awareness	Yes	Yes
Computer anxiety	Yes	No
Experience	Yes	Yes
Personality	Yes	No
Personal innovativeness	Yes	Yes
Shopping orientation	Yes	No
Trust	Yes	Yes
Desire to control service delivering	Yes	No
Willingness/ reluctance to change	Yes	Yes
Attitude to the service	Yes	Yes
Need for interaction with service provider	Yes	Yes
Psychological beliefs about channel attributes	Yes	No
Other factors:		
Religiosity	Yes	Yes
Values	Yes	Yes
Subjective norms	Yes	Yes
Government support	Yes	No

Table (7-1), summaries the factors that influence IB adoption that identified in the literature and by the in-depth interviews analyses. As table (7-1) indicated, many factors have been discussed in previous literature as influencing IB adoption. Of the 31 factors that have been identified in the literature and displayed in table (7-1) only 19 were identified in the in-depth interviews as factors that may influence Saudi consumers' decision to adopt IB. The in-depth interviews minimise the number of factors that considered as important to Internet-only banking acceptance from Muslim consumers' perspective.

In this study preliminary frameworks, figures (2-8), and (4-2) were developed through a review of related literature to guide the qualitative study. Figure (2-8) presents a proposed integrated model that includes variables from TRA, innovation diffusion theory (IDT), TAM, and variables from previous literature related to IB acceptance that have been developed by the researcher from the technology acceptance literature review. Figure (4-2) presents a proposed initial model that has been developed by the researcher from a review of the literature on religiosity and human values.

As the literature review in chapters two, three and four and the in-depth interviews revealed, some of the variables had a clear influence on consumers' acceptance of technologies. Figure 7-1 illustrates these variables. The initial model (figure 7-1) shows that there are two categories of variables that influence the acceptance of technology. The first category is the personal characteristics. These variables related to the consumers him/herself. This included personal religiosity, human values, need for human interaction, the tendency to accept social influence, personal innovativeness, previous experience in technology, and consumers' awareness of the technology. The second category is innovation characteristics, which includes perceived ease of use, perceived usefulness, compatibility, trialability, observability, perceived risk, and perceived trust. These two categories have a direct influence on the consumers'

intentions to adopt the technology and have an indirect influence on intentions through their influence on attitudes.

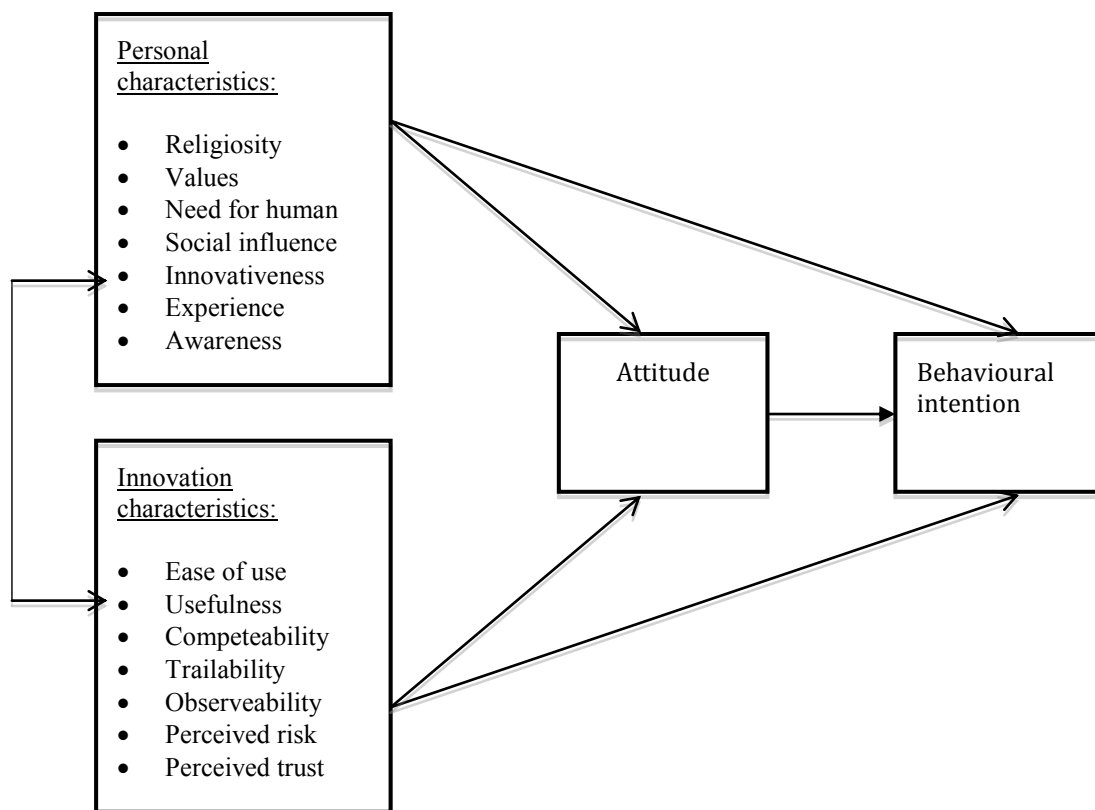


Figure (7-1). Initial research model

This figure also shows that attitude influences a consumer's intention to adopt technology. Figure (7-1) also illustrates that there are relationships between variables within the two personal characteristics and the innovation characteristics categories. The interviews and previous literature reveal that religiosity influences different variables from the personal characteristics (e.g., human values, social influence, and perceived trust), and the innovation characteristics categories (e.g., perceived risk and perceived ease of use). Figure (7-1), also indicated that perceived ease of use and usefulness influence trust. This initial model is only a conceptualisation of the consumer's

acceptance of technology. The interrelated relations within this initial model are explained in detailed in chapter eight, and is tested in chapter nine of this thesis.

In a summary, this phase of the study gave the researcher an improved interpretive understanding of what motivated Muslim to adopt the e-banking in general and Internet-only banks in particular or restrict them from adopting them. The qualitative study is also help in answering one of this thesis mean question, as it provide clear explanation in how Islamic religion affects Muslim people's IB behaviour.

7.4 **Summary**

The results of the data analysis have been discussed for each of the two qualitative methods used. In addition, this chapter concluded by proposing an initial model for this research. The initial model was developed according to the results of the literature review and the results of qualitative study. The next chapter (chapter eight) will discuss the research conceptual framework. In the next chapter, variants on the model will be defined, the research hypothesis will be developed, and the quantitative study instrument and survey sampling will be discussed in detail.

Chapter eight: The design of the quantitative study

8.1 Introduction

The previous chapter of this thesis included a discussion of the qualitative study. The initial model of this research was presented at the end of the chapter seven of this thesis. The proposed model was developed according to the results of the qualitative study and the literature review. The developed initial model (figure 7-1) of Muslim consumers' acceptance of Internet-only banks is then discussed in detail and tested through the quantitative study.

This chapter aims to review in detail the research variable definitions along with operationalisation, hypothesis development, questionnaire development, and sample design and procedures. This chapter consists of five sections: the first section concentrates on providing clear definitions for each of the research model variables. The second section is devoted to discussing the research hypotheses. The third section discusses research questionnaire development and administration. The fourth section discusses the sample design and procedures. The chapter concludes with a summary of the important issues discussed.

8.2 Research variables definitions

This section presents definitions of the research model variables. Seventeen variables are discussed in this section, along with the operationalisation of each variable and the source of variable measurement that has been used in this research. Almost all of the scales used to measure the research variables were adopted from previous literature, except for the willingness to accept religious leaders' advice; the importance consumers give to obtaining Islamic banking through Internet only banks and demographic variables. The researcher develops those three scales. Making the decision to use well-

developed, tested scales from previous studies is in accordance with de Vaus (2001) who suggested that ideally, before developing scales, researchers should first evaluate the available measures developed in previous research. In addition, Mitchell and Bates (1998: 200) state, “*replications and extensions of existing scales help guard against the perpetuation of erroneous and questionable results, as well as assessing the generalisability of findings from marketing studies*”.

The adopted scales have been used without any modification of the wording of items within scales. Almost all the scales used came from studies investigating how cultural, national, religious or individual differences affect consumer behaviour.

The method of research instrument development and pilot testing is discussed in detail in section (8.4.2 and 8.4.3) later in this chapter. This section briefly discusses the research instrument development. The instrument scales were translated from English to Arabic by an official translator, and then translated back into English by a second official translator. The two English versions of the questionnaire were then compared to make sure they match. Finally, to ensure the comprehensibility of the instrument, the Arabic version of questionnaire was pilot tested with 70 Saudi banking consumers.

This section contains 17 subsections and each subsection discusses one of the research model variables. These subsections are as follows: behavioural intention, attitude, perceived ease of use, perceived usefulness, perceived risk, perceived trust, personal religiosity, willingness to accept religious leaders’ advice, human values, need for human interaction, trainability, compatibility, observability, awareness, previous technological experience, personal innovativeness and social influence.

Appendix (A-1) presents the research variables, the scale used to measure each variable and the source of each scale. The rest of this section provides a short description of each latent variable used in the research model figure (9-1), along with description of the scale used to measure each variable. Table (8-1) presents a summary of the research

variables with a definition of each variable.

Table (8-1). Definitions and roots of research variables

Variable	Definitions
Perceived ease of use (PEOU)	The degree to which a person believes that using an IT will be free of effort (Davis et al., 1989).
Perceived usefulness (PU)	The degree to which a person believes that using a particular system would enhance his or her job performance. (Davis et al. 1989)
Attitude	An individual positive or negative feeling (evaluative affect) about performing the target behaviour. (Fashbein & Ajzen, 1975, : 216).
Behavioural intention (BI)	The degree of a consumer’s willingness or intention to behave in the future (Fashbein & Ajzen, 1975).
Social influence	“A person’s perception that most people who are important to him think he should not perform the behaviour in question” (Fishbein & Ajzen, 1975: 302).
Observability	The degree to which one can see others using the system in the organisation (Moore & Benbasat, 1991).
Trialability	The ability to experiment with the new product or service before making the final decision to purchase it (Rogers, 2003).
Compatibility	“The degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters” (Moore & Benbasat: 195).
Personal innovativeness	“The willingness of an individual to try out any new information technologies” (Agarwal & Prasad, 1998).
Awareness	“The level of consciousness related to the existence of the self-service-technology option and its general availability”(Meuter, 1999: 188).
Experience	“Previous experience related to the amount of usage of similar self-service-technologies or related technological products and service” (Meuter, 1999: 187).
Religiosity	“The degree to which beliefs in specific religious values and ideals are held and practiced by an individual” (Delener, 1990).
Perceived risk	The expectation of losses associated with purchase and acts as an inhibitor to purchase behaviour” (Peter & Ryan, 1976).
Need for human interaction	“These interactions allow for the development of interpersonal relationships between a customer and service provider” (Curran & Meuter, 2005).
Perceived trust	“The belief that the promise of another can be relied upon and that, in unforeseen circumstances, the other will act in a spirit of goodwill and in benign fashion toward the Trustor” (Suh & Han, 2002).
Human values	“Desirable, translational goals, varying in importance, that serve as guiding principles in people’s lives” (Schwartz & Bardi, 2001: 269).

8.2.1 Behavioural intention

Behavioural intention refers to the degree of a consumer’s willingness or intention to act in the future. In this study, behavioural intention refers to Muslim consumers’ willingness to use Internet-only banks if they are available. The measurement scale for

this variable comprises three items designed in a Likert-style format. The scale is adopted from Venkatesh et al. (2003) and employs a seven-point scale. The answers ranged from strongly agree (7) to strongly disagree (1).

8.2.2 Attitude

Attitude has been defined as “*a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour*” (Eagly & Chaiken , 1993: 1). Online banking offers customers a variety of choices and as a result, attitude impact becomes more important in predicting behaviour.

This research refers to the general attitude held by Muslim consumers to the Internet-only banks. The measurement scale for this variable comprises four items designed in a Likert-style format. The scale is adopted from Davis (1989). A seven-point scale is employed for that scale. The points ranged from strongly agree (7) to strongly disagree (1).

8.2.3 Perceived ease of use

Perceived ease of use is defined as “*the degree to which a person believes that using a particular system would be free of effort*” (Davis et al., 1989). In this research, perceived ease of use refers to Muslim consumers believe that the Internet-only banks are not complex and can be used easily. The measurement scale for this variable comprises four items designed in a Likert-style format. The scale is adopted from Venkatesh et al. (2003). A seven-point scale was employed. The points ranged from strongly agree (7) to strongly disagree (1).

8.2.4 Perceived usefulness

Davis et al. (1989) defined perceived usefulness, as “*the degree to which a person believes that using a particular system would enhance his or her job performance*”. In this research, perceived usefulness refers to Muslim consumers, believing that the

Internet-only banks had relative advantages that are useful for them. The measurement scale for this variable comprises six items designed in a Likert-style format. The scale is adopted from Venkatesh et al. (2003). A seven-point scale is employed for that scale. The points ranged from strongly agree (7) to strongly disagree (1).

8.2.5 Perceived risk

Perceived risk can be defined as “*a combination of uncertainty plus seriousness of outcome involved*” (Bauer, 1967: 87), and “*the expectation of losses associated with purchase and acts as an inhibitor to purchase behaviour*” (Peter & Ryan, 1976: 88). In this research, perceived risk refers to Muslim consumers’ perceptions of lack of security and privacy of the Internet-only banks. Privacy risk refers to “*Potential loss of control over personal information, such as when information about you is used without your knowledge or permission. The extreme case is where a consumer is ‘spoofed’ meaning that a criminal uses their identity to perform fraudulent transactions*” (Featherman & Pavlou, 2003: 451).

The measurement scale for this variable comprises five items designed in a Likert-style format. Two items on the scale measure privacy risk, while the other three items measure the security risk. The scale is adopted from Aldás-Manzano et al. (2009). A seven-point scale is employed for that scale. The points ranged from strongly agree (7) to strongly disagree (1).

8.2.6 Perceived trust

Trust is “*the belief that the promise of another can be relied upon and that, in unforeseen circumstances, the other will act in a spirit of goodwill and in a benign fashion toward the trustor*” (Suh & Han, 2002: 249). In this study, trust refers to the existence of how much consumers trust the service provider.

The measurement scale for this variable comprises three items designed in a Likert-style

format. The scale is adopted from Barnes (2009). A seven-point scale is employed. The points range from strongly agree (7) to strongly disagree (1).

8.2.7 Personal religiosity

Religiosity can be defined as “*the degree to which beliefs in specific religious values and ideals are held and practiced by an individual*” (Delener, 1990: 17). McDaniel and Burnett (1990) refer to religiosity as not only a belief in God but also a commitment to follow all the principles that are believed to be set by God. Also they suggest that religiosity can be measured in terms of behaviour and cognitive dimensions. They also state that religiosity can be viewed through two different perspectives: commitment and religious affiliation. In this study, personal religiosity refers to the degree of individual practice the teaching of the religion he or she follows.

It is not sufficient to rely on religious attendance alone as a measurement of religiosity (Bergan & McConatha, 2001). Therefore, the religiosity variable was operationalised as a multidimensional concept. It is believed that using a multi-item scale to measure religiosity will allow better understanding of its nature and “*may achieve high validity at the cost of sheer impracticality for almost all consumer research*” (Wilkes et al., 1986: 49).

There are different measurements of religiosity which have been developed and used in psychology research. Hill and Hood (1999) refer to 125 measures of religiosity and spirituality. Most of the available measurements of religiosity were designed from a Christian perspective and developed with Christian or Judeo-Christian subjects.

The measurement scale used for this variable comprises 33 items designed in a Likert-style format. The scale is adopted from Krauss & Idris (2007). A five-point scale was employed. The points ranged from ‘never do that’ (1) to ‘always do that’ (5).

8.2.8 Willingness to accept religious leaders' advice

A religious leader is defined as the “*leader of a religious order*” (Audioenglish.net, 2011; The free dictionary.com, 2011; Dictionary.reference.com, 2011). The role of a religious leader is important, especially in countries where the relationship between religion and the state is positive and strong (Hashim & Mizerski, 2010). Muslim religious leaders are considered as an important source of religious rule (*'fatwa'*), advice and opinion for most Muslims (Muhammad, 2008). Religious leaders in Islam are referred to in religious prayers as ‘Imam’. The religious scholars who many people refer to when asking for religious rulings or *'fatwa'* are also sometimes referred to as *'al mofta'*. Religious leaders in most Islamic countries are men. This domination of men in this role is related to the interpretation of religious texts by most of the Islamic religious schools. This domination of men of the role of religious leader is not only seen in the Islamic religion. Most leaders in other religions, such as priests or gurus, are also men.

The measurement scale for this variable comprises two items designed in a Likert-style format. As there was no established scale to measure Muslim consumers' willingness to accept religious leaders' advice, the researcher developed a scale. A five-point scale was employed. The points ranged from strongly agree (5) to strongly disagree (1).

8.2.9 Human values

Schwartz and Bardi (2001: 269) define human values as “*desirable, translational goals, varying in importance, that serve as guiding principles in people's lives*”. Schwartz and Mark (1992) identify ten types of values that are likely to be recognised within and across cultures: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security. This study adopts Schwartz's human value model (1992) to investigate the influence of values on Muslim consumer's acceptance of Internet-only banks.

The measurement scale for this variable comprises 21 items designed in a Likert-style format. The scale is adopted from Davidov et al. (2008). A six-point scale is employed. The points range from very much like me (6) to not like me at all (1).

8.2.10 Need for human interaction

A need for interaction is defined as a desire to retain personal contact with others during a service encounter (Dabholkar, 1992). *“These interactions allow for the development of interpersonal relationships between a customer and service provider”* (Curran & Meuter, 2005: 104). The need for human interaction in this study refers to Muslim consumers’ desire for face-to-face communication with banking service providers.

The measurement scale for this variable comprises three items designed in a Likert-style format. The scale is adopted from Dabholkar (1996). A seven-point scale is employed. The points range from strongly agree (7) to strongly disagree (1).

8.2.11 Trialability

Trialability can be described as the ability to experiment with the new product or service before making the final decision to purchase it (Roger, 2003). In this study, trialability refers to Muslim consumers’ perceptions of when they will get the chance to try Internet-only banks’ services before they committed themselves to using them.

The measurement scale for this variable comprises three items designed in a Likert-style format. The scale is adopted from More & Benbasat (1991). A seven-point scale is employed. The points ranged from strongly agree (7) to strongly disagree (1).

8.2.12 Compatibility

Compatibility refers to the degree to which a new product or service is consistent with adopters’ experience (Roger, 2003). Compatibility in this research refers to Muslim consumer’s perceptions of whether Internet-only banks are compatible with their

previous experience in using other banking services. The measurement scale for this variable comprises three items designed in a Likert- style format. The scale is adopted from More and Benbasat (1991). A seven-point scale is employed. The points range from strongly agree (7) to strongly disagree (1).

8.2.13 Observability

Observability refers to the appearance of innovation by the potential adopters (Rogers, 2003). More and Benbasat (1991: 203) define observability, as “*tangibility of the results of using the innovation*”. Agarwal and Prasad (1997) indicate that there is a significant correlation between the observability and usage intention. Observability refers here to Muslim consumers’ belief that the results of using the Internet-only bank should be visible to them.

The measurement scale for this variable comprises three items designed in a Likert- style format. The scale is adopted from More and Benbasat (1991). A seven-point scale is employed. The points range from strongly agree (7) to strongly disagree (1).

8.2.14 Awareness

Meuter (1999: 188) defines awareness in the self-service technology context as “*the level of consciousness related to the existence of the self-service-technology option and its general availability*”. The measurement scale for this variable comprises four items designed in a Likert-style format. The scale is adopted from Al Somali et al. (2009) And employs a seven-point scale. The points range from strongly agree (7) to strongly disagree (1).

8.2.15 Previous technological experience

“*Previous experience is related to the amount of usage of similar self-service-technologies or related technological products and service*” (Meuter, 1999: 187). The

measurement scale for this variable comprises three items designed in a Likert-style format. The scale is adopted from Meuter (1999) and employs a seven-point scale. The points range from strongly agree (7) to strongly disagree (1).

8.2.16 Personal innovativeness

Rogers' (1962: 185) definition of innovativeness is the degree to which an individual adopts an innovation earlier than others. Agarwal and Prasad (1998: 205) describe personal innovativeness as, "*the willingness of an individual to try out any new information technologies*". In addition, Rogers (1995) describes highly innovative individuals as active information seekers for new ideas, who can usually cope with high levels of uncertainty and develop more positive intentions for acceptance. The measurement scale for this variable is adopted from (Parasuraman, 2000) and comprises a seven-point scale in a Likert-style format.. The points range from strongly agree (7) to strongly disagree (1).

8.2.17 Social influence

Social influence has been defined by Fishbein and Ajzen (1975a: 302) as a "*person's perception that most people who are important to him think he should not perform the behaviour in question*". Lu et al. (2005) describe social influence as "*perceived pressures from social networks to make or not to make a certain behavioural decision*".

The measurement scale for this variable is adopted from Venkatesh et al. (2003) and comprises three items designed in a Likert-style format. A seven-point scale is employed. The points range from strongly agree (7) to strongly disagree (1).

8.3 Hypothesis development

Based on the literature review in chapters two, three and four, table (8-2 a) and (8-2 b) represent the research hypotheses categories and their sources. Tables (8-3a), (8-3b), (8-3c) and (8-3d) represent a summary of the research hypotheses. The hypotheses are

discussed in relation to each other. Therefore, hypotheses are categorised in 14 subsections. Each subsection is devoted to discussing a group of related hypotheses. The first subsection presents discussions of the literature supporting the hypotheses' relationships to human values, religiosity, attitudes and behaviours. The second subsection presents discussions of the literature supporting the hypotheses' relationships between consumers' awareness of Internet-only banks and trialability, PEOU, BI, compitability, perceived risk. The third subsection presents discussions of the literature supporting the hypotheses' relationships between social influences and need for huan interaction, PU, BI. The fourth subsection presents discussions of the literature supporting the hypotheses' relationships between previous technological experience and perceived trust, PU, PEOU, observeability. The fifth subsection presents discussions of the literature supporting the hypotheses' relationships between personal innovativeness and need for human interaction, PU. The sixth sub-model presents discussions of the literature supporting the hypotheses relationships between trialability and PU, BI and the relationship between observeability and BI the section is also discusses the relationship between compitability and PU, BI. The seventh sub-model presents discussions of the literature supporting the hypotheses' relationships between consumers' attitudes to Internet-only banks. The eighth sub-model is dedicated to presenting discussions of the literature supporting the hypotheses' relationships between perceived usefulness and perceived ease of use with perceived trust, attitude, BI. The ninth subsection presents discussions of the literature supporting the hypotheses' relationships between the need for human interaction and attitude, PU. The tenth sub-model presents discussions of the literature supporting the hypotheses' relationships with perceived risk. The eleventh subsection presents discussions of the literature supporting the hypotheses' relationships between perceived trust with BI. The twelfth sub-model is dedicated to discussions of the literature supporting the hypotheses' relationships between personal religiosityBI, PEOU, attitude, social influence, perceived trust, perceived risk, personal innovativeness, need for human interaction, Muslim consumers willingness to lsten to religious scholars advice, the importance Muslim consumers give to obtaining Islamic banking services through internet only banks.

Table (8-2a). Summary of research hypotheses' categories and their supporting literature

Hypotheses category	Supporting literature
Influence of human values on attitudes and behaviour:	Carman, 1977; Williams, 1979; Kahle, 1980; Pitts & Woodside, 1986 Reynolds & Gutman, 1988; Valencia, 1989; Straub, 1994; Roy, 1994; Donthu & Cherian, 1994; Shim & Eastlick, 1998; Hofstede, 2001; Van Everdingen & Warrts, 2003; Jayawardhena, 2004; Cai & Shannon, 2010.
Conservative values' influence attitudes and behaviour:	Hill et al., 1998; Loch et al., 2003; Whitman, 2004 Albirini, 2006; Bagchi & Kirs, 2009
Self-enhancement values influence on attitudes and behaviour:	Straub, 1994; Shim et al., 2001; Mickey et al., 2002; Moon & Kim, 2001 Jayawardhena, 2004; Lee et al., 2005; Lee et al., 2007; Heilman & Brusa, 2008.
Self-transcendence values influence on attitudes and behaviour:	Bagchi & Kirs, 2009; Barnes, 2009
Self-enhancement values influence on attitudes and behaviour:	House et al., 2004; Bagchi & Kirs, 2009.
Religiosity's influence on human values:	Rokeach, 1969; Schwartz & Huismans, 1995; Saroglou et al., 2004 Roccas, 2005.
The influence of awareness on technology acceptance	Sathye, 1999; Ramayah et al., 2003; Sohail & Shanmugham, 2004; Pikkarainen et al., 2004; Fitzgerald, 2004; Al Sukkar & Hassan, 2005; Laforet & Li, 2005; Gerrard et al., 2006; Polasik et al., 2009; Al Somali et al., 2009.
Social influence on technology acceptance:	Burkhardt & Brass, 1990; Saga & Zmud, 1994; Taylor & Todd, 1995a; Venkatesh & Morris, 2000; Venkatesh et al., 2003; Al Gahtani, 2004; Yi et al., 2005; Lu et al., 2005; Lee et al., 2007; Al Somali et al., 2009; Abu Shanab et al., 2010; Xue et al., 2011.
The influence of previous experience on technology acceptance:	Roger, 1975; Bowen, 1986; Igarria, 1992; Igarria & Chakrabarti, 1990; Venkatesh & Davis, 2000; Al Ashban & Burney, 2001; Vekantesh et al., 2003; Sait et al., 2004; Monuwe et al., 2004; Burton-Jones & Hubona, 2006; McKechnie et al., 2006; Farancesca et al., 2009; Abbasi et al., 2010.
The influence of personal Innovativeness on technology acceptance:	Agarwal & Prasad, 1998; Jones et al., 2002; Bhatnagar et al., 2000; Kwak, Fox, & Zinkhan, 2002; O'Cass & Fenech, 2003; Lewis et al., 2003; Lu, 2003; Sait & Hussain, 2004; Clark & Goldsmith, 2006; Lu et al., 2005; Hirunyawipada & Paswan, 2006; Lee et al., 2007; Bhatti, 2007; Aldás-Manzano et al., 2009; Abu Shanab et al., 2010; Hoffmann & Soyeze, 2010.
The influence of innovation characteristics on technology acceptance:	Roger, 1995; Mouter 1999; Harrington & Ruppel, 1999; Tan & Teo, 2000; Al Gahtani, 2004; Park, 2007.
The influence of attitude on technology acceptance:	Davis et al., 1989; Shim & Eastlick, 1998; Al Kaldi & Wallace, 1999; Venkatesh & Davis, 2000; Caalin, 2002; O'Cass & Fenech, 2003; Curran et al., 2003; Pikkarainen et al., 2004; Yang & Yoo, 2004; Vijayasathy, 2004; Sait & Hussain, 2004; Padhmanabhan & Singhal, 2008; Jahng et al., 2007; Lee, 2008; Al Sajan & Dennis, 2009; Abbasi et al., 2010; Jamal & Malik, 2010.

The thirteenth subsection present discussions of literature supporting the moderating effects in this study research model. The fourteenth subsection present discussions of literature supporting the mediating effects in this study research model. In each of subsection mentioned above, a diagram illustrating the hypothesised relations is presented.

Table (8-2b). Summary of research hypotheses category and their supporting literature

Hypothesis category	Supporting literature
The influence of human interaction on technology acceptance:	Zeithaml & Gilly, 1987; Marr & Prendergast, 1991; Dabholkar, 1999; Meuter, 1999; Mickey et al., 2002; Zhang & Zhang, 2005; Al Sukkar & Hassan, 2005; Jahng et al., 2007.
The influence of perceived usefulness and perceived ease of use on technology acceptance:	Roger, 1975; Davis, 1989; Davis, 1993; Taylor & Todd, 1995a; Jackson et al., 1997; Dishaw & Strong, 1999; Lucas & Spitler, 1999; Agarwal & Karahanna, 2000; Venkatesh & Davis, 2000; Lowry, 2002; Warren, 2002; Al-Ubaydli & Deans, 2003; Henderson & Divett, 2003; Mattila et. al., 2003; Vijayasarthy, 2004; Cho & Agrusa, 2006; Burton-Jones & Hubona, 2006; Park, 2007; Eriksson & Nilsson, 2007; Roca et al., 2009; Barnes, 2009; Chong et al., 2010.
The influence of perceived risk on technology acceptance:	Sathye, 1999; Venkatraman, 1999; Aladwani, 2001; Polatoglu and Ekin, 2001; Lee & Turban, 2002; Suh & Han, 2002; Rotchanakitumnuai & Speece, 2003; Laio et al., 2003; Vijayasarathy, 2004; Fitzgerald, 2004; Cheng et al., 2006; Hirunyawipada & Paswan, 2006; Grabner-Krauter & Faullant, 2008; Polasik et al., 2009; Roca et al., 2009; Abu Shanab et al., 2010; Pavlou, 2011.

Table (8-3a). Summary of the research hypothesis

H1: Human values influence consumer's behavioural intention.
H1a: Conservative values are negatively related to behavioural intention.
H1a1: Security is negatively related to behavioural intention.
H1a-2: Tradition is negatively related to behavioural intention.
H1a-3: Conformity is negatively related to behavioural intention.
H1b: Self-enhancement values are positively related to behavioural intention.
H1b-1: Achievement is positively related to behavioural intention.
H1b-2: power is positively related to behavioural intention.
H1c: Self-transcendence values are positively related to behavioural intention.
H1c-1: Universalism is positively related to behavioural intention.
H1c-2: Benevolence is positively related to behavioural intention.
H1d: Openness to change values is positively related to behavioural intention.
H1d-1: Stimulation is positively related to behavioural intention.
H1d-2: Self-direction is positively related to behavioural intention.
H1d-3: Hedonism is positively related to behavioural intention.
H2: Human values influence consumers' attitude.
H2a: Conservative values are negatively related to attitude.
H2a-1: Security is negatively related to attitude.
H2a-2: Tradition is negatively related to attitude.
H2a-3: Conformity is negatively related to attitude.
H2b: Self-enhancement values are positively related to attitude.
H2b-1: Achievement is positively related to attitude.
H2b-2: Power is positively related to attitude.
H2c: Self-transcendence values are positively related to attitude.
H2c-1: Universalism is positively related to attitude.
H2b: Self-enhancement values are positively related to attitude.
H2c-2: Benevolence is positively related to attitude.
H2d: Openness to change values is positively related to attitude.
H2d-1: Stimulation is positively related to attitude.
H2d-2: Hedonism is positively related to attitude.
H2c-2: Benevolence is positively related to attitude.
H2d-3: Self-direction is positively related to attitude.

Table (8-3b). Summary of the research hypotheses

H3: Personal religiosity is related to human values.
H3a: Personal religiosity is positively related to conservative values.
H3a-1: Personal religiosity is positively related to security.
H3a-2: Personal religiosity is positively related to tradition.
H3b: Personal religiosity is negatively related to Self-enhancement values.
H3b-1: Personal religiosity is negatively related to achievement.
H3b-2: Personal religiosity is negatively related to power.
H3c: Personal religiosity is positively related to Self-transcendence values.
H3c-1: Personal religiosity is positively related to universalism.
H3c-2: Personal religiosity is positively related to benevolence.
H3d: Personal religiosity is negatively related to openness to change values.
H3d-1: Personal religiosity is negatively related to stimulation.
H3d-2: Personal religiosity is negatively related to self-direction.
H3d-3: Personal religiosity is negatively related to hedonism.
H4a: Awareness has positive relation to trialability.
H4b: Awareness has positive relation to behavioural intention.
H4c: Awareness has positive relation to compatibility.
H4d: Awareness has negative relation to perception of risk.
H4e: Awareness has positive relation to perception of ease of use.
H5a: Social influence has positive to their preferences of human interaction.
H5b: Social influence is positively related to behavioural intention.
H5c: Social influence is positively related to PU.
H6a: Technology experience is positively related to their perception of ease of use.
H6b: Technological experience is positively related to observability.
H6c: Technological experience is positively related to perceived trust.
H6d: Technology experience is positively related to their perception of usefulness.
H7a: Innovativeness is negatively related to the need for human interaction.
H7b: Innovativeness is positively related to perceived usefulness.
H8a: Trialability is positively related to behavioural intention.
H8b: Compatibility is positively related to behavioural intention.
H8c: Observability is positively related to behavioural intention.
H9a: Compatibility is positively related to usefulness.
H9b: Trialability is positively related to usefulness.

Table (8-3c). Summary of the research hypotheses

H10: Attitude is positively related to behavioural intention.
H11a: Perceived Usefulness is positively related to behavioural intention.
H11b: Consumers' perceptions of usefulness have positive relation to their attitudes.
H11c: Consumers' perceptions of ease of use have positive relation to their attitudes.
H11d: Perceived ease of use positively related to perceived usefulness.
H11e: Perceived ease of use is positively related to perceived trust.
H11f: Perceived usefulness is positively related to perceived trust.
H12a: Consumers' preferences for human interaction have a negative relation to their attitude to adoption.
H12b: Consumers' preferences for human interaction have a negative relation to their PU.
H13a: Perceived risk is negatively related to behavioural intention.
H13b: Perceived risk is negatively related to usefulness.
H14: Trustworthiness is positively related to behavioural intention.
H15a: Personal religiosity is positively related to behavioural intention.
H15b: Personal religiosity is positively related to attitude.
H15c: Personal religiosity is negatively related to personal innovativeness.
H15d: Personal religiosity has a positive relationship with Muslims' perceptions of trust.
H15e: Personal religiosity has a positive relation to consumers' perceptions of ease of use.
H15f: Personal religiosity is positively related to the importance that Muslim consumers give to obtaining Islamic banking through Internet-only banks.
H15g: The importance that Muslim consumers give to obtaining Islamic banking through Internet-only banking is negatively related to attitude.
H15h: Personal religiosity is positively related to willingness to accept religious scholars.
H15i: Muslim consumers' willingness to accept religious scholars is negatively related to their attitude.
H15j: Personal religiosity has a positive relation to social influence.
H15k: Personal religiosity has a positive relationship with consumers' need for human interaction.
H15l: Personal religiosity has a positive relationship with Muslims perceptions of risk.
H16: Human values moderate the relationship between attitude and behavioural intention.
H16a: Conservative values negatively moderate the relationship between attitude and behavioural intention.

Table (8-3d). Summary of the research hypotheses

H16a-1: Security negatively moderates the relationship between attitude and behavioural intention.
H16a-2: Tradition negatively moderates the relationship between attitude and behavioural intention.
H16a-3: Conformity negatively moderates the relationship between attitude and behavioural intention.
H16b: Self-enhancement values positively moderate the relationship between attitude and behavioural intention.
H16b-1: Achievement positively moderates the relationship between attitude and behavioural intention.
H16b-2: Power positively moderates the relationship between attitude and behavioural intention.
H16c: Self-transcendence values positively moderate the relationship between attitude and behavioural intention.
H16c-1: Universalism positively moderates the relationship between attitude and behavioural intention.
H16c-2: Benevolence positively moderates the relationship between attitude and behavioural intention.
H16d-3: Openness to change values positively moderates the relationship between attitude and behavioural intention.
H16d-1: Stimulation positively moderates the relationship between attitude and behavioural intention.
H16d-2: Self-direction positively moderates the relationship between attitude and behavioural intention.
H16d-3: Hedonism positively moderates the relationship between attitude and behavioural intention.
H17a: The influence of personal religiosity on attitude is negatively moderated by consumers' willingness to accept religious leaders.
H17b: The influence of personal religiosity on attitude is negatively moderated by the importance consumers give to obtaining Islamic banking.

Table (8-3e). Summary of the research hypotheses

H18: Perceived risk, social influence, and perceived trust mediate the relationship between personal religiosity and behavioural intention.
H18a: Perceived risk mediates the relationship between personal religiosity and behavioural intention.
H18b: Social influence mediates the relationship between personal religiosity and behavioural intention.
H18c: Perceived trust mediates the relationship between personal religiosity and behavioural intention.
H19: Perceived ease of use mediates the relationship between personal religiosity and attitude.

8.3.1 Human values, religiosity, attitudes and behaviours

The influence of values on behaviour is rooted in the relationship of values to culture because values are considered as one of the important elements of culture (Schwartz 1992. According to Straub (1994) and Van Everdingen and Warrt (2003) cultural factors influence users' attitudes and intentions to use technologies. In addition, Hofstede (1980) point out the importance of people's values system in making rational choices. Therefore, it is expected that values will have an impact on consumer behaviour.

Values have an influence on consumers' attitudes and behaviour (Valencia, 1989; Donthu & Cherian, 1994; Shim & Eastlick, 1998). There are two schools of thought about how values could influence consumer behaviour. Some researchers project personal values in the form of a series of means and ends (e.g., Carman, 1977; Williams, 1979), while others suggest that consumption behaviour is a means to achieving desired end-states or values (Reynolds & Gutman, 1988).

Williams (1979) states that values influence choice and preferences. The impact of values on consumers' behaviour may be direct or indirect. Kahle (1980) states that values have an indirect influence on consumers' behaviour. Jayawardhena (2004) argues

that consumers' e-shopping behaviour has direct relationships with consumers' personal values. According to Roy (1994) there are positive relationships between shopping behaviour and stimulation, the need for affiliation and power values.

Several researchers have investigated the relationship between human values and consumer attitudes. Jayawardhena (2004) states that consumers' attitudes to e-shopping mediate the relationship between personal values and consumers' e-shopping behaviour. Cai and Shannon (2010) indicate that the value-attitude-intention-behaviour model works well in describing Thai shoppers. Pitts and Woodside (1986) outline the strong influence of values on attitudes.

Human values differ in their influence on consumers' attitudes and behaviours. Some human values enhance consumers' adoption behaviour while other values hinder it. Therefore, it is expected that the human values that motivate the status quo will have a negative relationship with the attitudes and usage intention of innovations, while human values that motivate change will enhance positive attitudes and influence usage intention positively.

Traditional values stress the importance of sustaining the status quo, which indicates a general resistance to change. The adoption of new technologies sometimes requires a change in individual habits and skills. According to Hill et al. (1998) one of the barriers to the deployment of technology in Arab countries is their adherence to tradition. Albirini (2006) believes that traditional values may impede information communication technologies. Loch et al. (2003) note that fear of other cultures influences Internet acceptance in the Arab world.

There is also a strong feeling that the government should maintain a secure environment for its citizens. Most people consider the Internet a less secure environment (Whitman, 2004). Consumers' perception of the Internet as less secure and their

perception of low privacy on the Internet have a negative influence on their attitudes and intention to use e-commerce (Aladwani, 2001).

Moreover, Schwartz & Mark (1992: 9) refers to conformity values as the *“restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms. It is derived from the requirement that individuals inhibit inclinations that might be socially disruptive if interaction and group functioning are to run smoothly”*. Consumers who are conforming to their society will usually stress the importance of obedience to clear structures. Therefore, a conformity value is expected to have a negative impact on consumer’s intentions to use technology (Bagchi & Kirs, 2009). Consumers who are conforming to social roles may be less willing to accept uncertainty. Therefore, they will be less willing to accept new technologies.

The use of innovations such as the Internet-only banks means not maintaining the status quo. Conservative values stress the fear of the new and avoiding uncertainty. These emphasize maintaining the old methods of doing things and reject new methods. This means that respondents who may score high on conservative values will hold negative attitudes to innovation and will resist it. The use of Internet-only banks raises the possibility of hacking attacks on consumers’ bank accounts. Therefore, security values may prevent people from thinking of using Internet-only banks. The hypotheses corresponding to the above discussion are as follows:

H1a: There is a significant negative relationship between conservative values (security, traditionalism, and conformity) and consumers’ intention to use Internet-only banks.

H2a: There is a significant negative relationship between conservative values (security, traditionalism, and conformity) and consumers’ attitudes to Internet-only banks.

In contrast to conservative values, openness to change values (self-direction values and stimulation values) emphasises excitement, challenge, independent actions

and choices, exploring and creating (Schwartz et al., 1991). Those who score high in self-enhancement values are more open to change and less interested in maintaining the status quo. E-commerce in general encourages independence and is considered to be an exciting environment by some of its users. Some e-commerce users believe that it is an enjoyable and challenging experience (Shim et al., 2001).

Stimulation values are related to risk taking and adventure seeking. Cross-cultural studies indicate that there is a positive relationship between low uncertainty avoidance and technology usage (Lee & Lin, 2005). Moreover, high risk taking motivations are associated with technology use and adoption (Straub, 1994). E-commerce in general is considered to be more risky than offline commerce because, in e-commerce there is the uncertainty of the other side of the transaction, which raises threats from the reliance on online payment, privacy risks and the possibility of insecure websites (Lee et al., 2007). Those who often use e-commerce are sometimes characterised as risk takers (Mickey et al., 2002).

Moreover, the influence of self-direction values is the strongest predictor of consumers' attitudes to e-shopping (Jayawardhena, 2004). People with high self-direction values tend to value independence and be less reliant on others in taking their decisions. These characteristics are close to Hofstede's (1981) definition of individualism. Research into technology adoption shows that those who are more individualistic have more of a tendency to adopt new technology (Lee et al., 2007).

Hedonistic values share elements of openness to change and self-enhancement values. They emphasize seeking pleasure in life. Internet banking has been described as an enjoyable experience by some of the banks' consumers. Shim et al. (2001) and Jayawardhena (2004) argue that consumers who stress self-enjoyment and self-direction values will be more likely to prefer e-shopping. Moon and Kim (2001) indicate that perceived enjoyment has an influence on technology usage intentions. Also, Heilman and Brusa (2008) found that students' perception of enjoyment in using computers had a

significant positive relationship with their level of computer use. Therefore, it is assumed that hedonic values have a significant positive relationship to attitudes to, and intention to use, Internet-only banks.

In addition, Jayawardhena (2004), who found that consumers who emphasise self-direction and enjoyment values have positive attitudes to e-shopping, has confirmed the influence of openness to changing values related to e-commerce . Therefore, it is assumed that the more the consumers score in openness to change, the more positive attitudes they will have to Internet-only banks. The hypotheses corresponding to the above discussion are as follows:

H1b: There is a significant positive relationship between openness to change values (stimulation, self-direction, and hedonism) and consumers' intention to use Internet-only banks.

H2b: There is significant positive relationship between openness to change values (stimulation, self-direction, and hedonism) and consumers' attitude to Internet-only banks.

Self-transcendence values (benevolence and universalism) stress promoting the welfare of others. Bagchi and Kirs (2009) and Udo et al. (2008) believe that self-transcendence values have no influence on consumers' technology acceptance behaviour. However, Barnes (2009) found that benevolence has an indirect influence on technology usage intention through its positive influence on both perceived usefulness and perceived ease of use. Following Barnes' (2009) results on developing the hypothesis about the influence of self-transcendence values in consumer's attitudes and usage behaviour related to Internet-only banking acceptance, it would be expected that self-transcendence values would have a positive influence. Benevolence values refer to the importance people place on the welfare of others in their group, while universalism refers to the protection of the welfare of all people and nature. Internet banking provides

consumers with time savings, convenience and low cost services. At the same time this type of banking method reduces the use of energy and paper, which enhance the welfare of the society in which the person lives. Therefore, it could be hypothesised such values are positively related to the adoption of IB services. The hypotheses corresponding to the above discussion are as follows:

H1c: There is significant positive relationship between self-transcendence values (universalism, and benevolence) and consumers' intention to use Internet-only banks.

H2c: There is significant positive relationship between self-transcendence values (universalism, and benevolence) and consumers' attitudes to Internet-only banks.

Self-enhancement values (power and achievement) emphasize the pursuit of self interest (Scwartz & Mark , 1992). Power motivation emphasises control and influence over others (Bagchi & Kirs, 2009). Those who have high power motivation pay great attention to their image and to what others may think of them. Achievement motivation refers to the individual's need for success. Those who have high achievement motivation are concerned with attaining excellence, and show interest in situations of moderate risk with regard to success in their goals. They prefer competitive strategies (House et al., 2004). The Internet in general and Internet-only banking in particular offers consumers control over their online activities. It also allows consumers to develop a sense of excellence in conducting their transactions online. Therefore, it could be assumed that those who have high power and achievement motivation will hold positive attitudes and be more willing to use Internet-only banks. The hypotheses corresponding to the above discussion are as follows:

H1d: There is a significant positive relationship between self-enhancement values (achievement, and power) and consumers' intention to use Internet-only banks.

H2d: There is a significant positive relationship between self-enhancement values (achievement, and power) and consumers' attitudes to Internet-only banks.

Relationships tested in hypothesis H1, H2 and H16 are illustrated on figure (8-1).

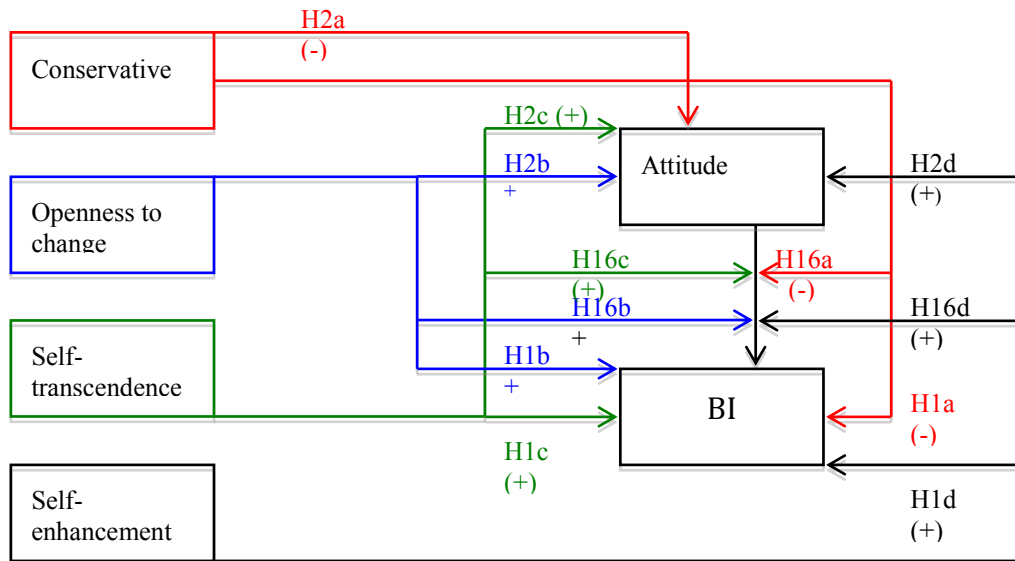


Figure (8-1). Illustration of the relationships tested in H1, H2 and H16

Religion has an important role in emphasising certain values while downplaying other values (Rokeach, 1968). Roccas (2005) stresses the importance of investigating the relationship between religiosity and values. The relationship between religion and values has been investigated through different theories (Saroglou et al., 2003). Roccas (2005: 747), believe that “Persons more committed to religion attribute relatively high importance to values expressing motivation to avoid uncertainty and change and relatively low importance to values expressing motivations to follow one’s hedonistic desires, or to be independent in thought and action”.

The first attempt to investigate the relationship between religiosity and human values was conducted by Schwartz and Huismans (1995) who found that religion was strongly positively related to tradition and conformity and weakly positively related to

security and benevolence. They also found that religion was strongly negatively related to hedonism, stimulation and self-direction, and weakly negatively related to achievement, power and universalism. In their meta-analysis of reviews of studies that used Schwartz's model to investigate the relationship between religiosity and human values, Saroglou et al. (2004) examine adherents of three religions (Christians, Jews, and Muslims) in 21 samples from 15 countries. This meta-analysis review indicates that there is a positive relationship between the degree of religiosity and conservative values (tradition, conformity, and to a lesser extent, security). Moreover, there is a negative relationship between the degree of religiosity and openness to change values (stimulation and self-direction). In addition, a positive relationship between the degree of religiosity and self-transcendence (benevolence, but not universalism) was found. The study found a negative relationship between the degree of religiosity and self-enhancement values (achievement and power). The hypotheses corresponding to the above discussion are as follows:

H3a: There is significant positive relationship between consumers' personal religiosity and conservative values (security, traditionalism, and conformity).

H3b: There is significant negative relationship between consumers' personal religiosity and self-enhancement values (achievement, and power).

H3c: There is significant positive relationship between consumers' personal religiosity and self-transcendence values (universalism, and benevolence).

H3d: There is significant negative relationship between consumers' personal religiosity and their openness to change values (stimulation, self-direction, and hedonism).

The above hypothesis relationships are illustrated in figure 8-2 below.

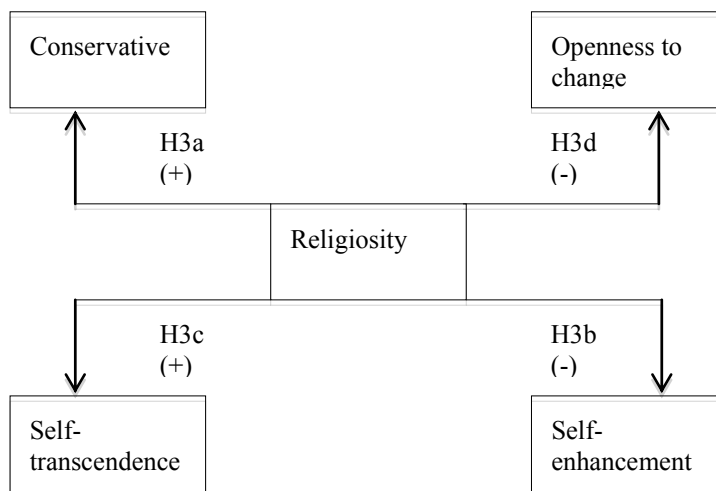


Figure (8-2). Illustration of the relationships tested in H3.

8.3.2 Consumers' awareness of Internet-only banks

Awareness is one of the most important factors that influences technology adoption (Sohail & Shanmugham, 2004). In their investigation of Finnish consumers' acceptance of IB, Pikkarainen et al. (2004) found that awareness of IB was a very important factor in the adoption of this service. Lack of awareness was among the major factors that restricted consumers from adopting online banking (Fitzgerald, 2004). In addition, Sathye (1999) refers to the lack of awareness of IB as one of the major barriers to the adoption of online banking in Australia. In their study of online banking in Jordan, Al Sukkar and Hassan (2005) found that a lack of awareness of IB, a lack of security, the fear of making mistakes while using IB and cultural and religious issues are the most important barriers. Moreover, in their study to investigate the factors that may lead consumers to resist the adoption of online banking, Gerrard et al. (2006) state that a lack of the awareness of online banking is one of the factors in consumers' hesitation. In addition, Laforet and Li (2005) demonstrate that a lack of awareness of the benefits of mobile banking has slowed the adoption of such banking services in China.

Providing consumers with enough information about an innovation may contribute to helping them in make a decision about it. Polasik and Wisniewski (2009) stress the importance of raising awareness of online banking among consumers. Pikkarainen et al. (2004) show that awareness and perceived usefulness are the main factors that influence Finnish IB consumers.

The more information individuals have about an innovation, the more they will consider its usefulness to them. Moreover, the availability of information about the innovation will help individuals in deciding how to use it, which will make them perceive it as easy to use and less complex. Awareness will also decrease consumer's anxiety and uncertainty about the outcomes of the innovation. Al Somali et al. (2009) found that awareness has a significant positive relationship with consumers' perception of usefulness and ease of use. In contrast to what has been mentioned regarding the importance of awareness of IB in consumers' adoption of the system, Ramayah et al. (2003), found that a high awareness of IB was not important in convincing Malaysian customers to adopt IB. The hypotheses corresponding to the above discussions are as follows:

H4a: There is a significant positive relationship between consumers' awareness of Internet-only banks and their perception of the trialability of Internet-only banks.

H4b: There is significant positive relationship between consumers' awareness of Internet-only banks and their intention to use Internet-only banks.

H4c: There is significant positive relationship between consumers' awareness of Internet-only banks and their perception of the compatibility of Internet-only banks.

H4d: There is significant negative relationship between consumers' awareness of Internet-only banks and their perception of risk of the Internet-only banks.

H4e: There is a significant positive relationship between consumers' awareness of Internet-only banks and their perception of the ease of use of Internet-only banks.

Figure (8-3) represents the relationships tested in hypothesis H4.

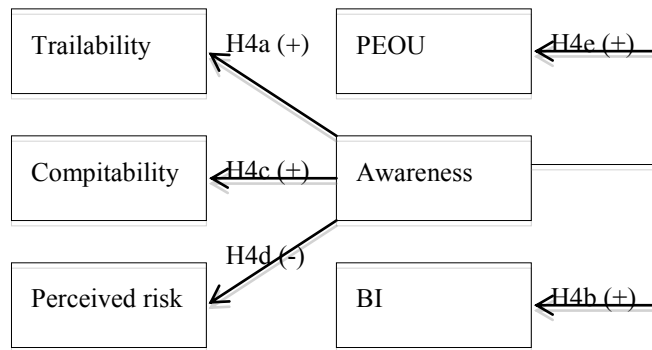


Figure (8-3). Illustration the relationships tested in hypothesis H4

8.3.3 Social influence

Social networking has a positive influence on decreasing consumers' uncertainty. The relationship between innovation diffusion and social influence has been investigated in several studies (e.g., Lu et al., 2005). Social networks are useful to consumers in supporting their decisions to use innovations. Uncertainty about the consequences of an innovation may lead potential adopters to rely on social networking support in making adoption decisions (Burkhardt & Brass, 1990; Lu et al., 2005; Lee et al., 2007).

Social influence is a significant factor that affects consumers' technology adoption behaviour (Venkatesh & Morris, 2000). Social influences refer to other people's opinions, and supervisor and peer influences (Taylor & Todd, 1995b). Consumers' attitudes toward IB may be influenced by family members, relatives or peers (Al Somali et al., 2009). According to Davis et al. (1989), individuals sometimes use technology to satisfy others rather than satisfying their real needs for technology. Customers may use technology even though they are not enjoying it, if they think it is

socially important (Saga & Zmud, 1994).

Social influence has an important effect on consumers' behaviour (Bourne,1957). According to Yi et al., (2006) subjective norms are a significant influence on behavioural intentions. Concerning technology acceptance Venkatesh et al. (2003) reported a positive relationship between social influence and technology usage intentions. Based on study of 1190 computer users working in public and private Saudi organisations Al Gahtani (2004) found that cultural and social factors have an influence on Saudis' technology adoption.

In regard to the impact of social influence on consumers' acceptance of IB, Xue et al., (2011) found that consumers who were socially influenced had used banking services and, when looking for efficiency in banking services, were faster in adopting online banking services. In their research to investigate Jordanians' IB acceptance, Abu Shanab et al. (2010) found that social influence had a significant positive relationship with IB usage intentions.

Social influence refers to the importance individuals place on others' opinions. Those who are socially influenced usually have a wide social network. It is believed these people prefer to interact with humans rather than machines. They like to have the opportunity to build relationships with those who share ideas and interests with them. Therefore, it is expected that there is a positive relationship between social influence and consumers' need for human interaction. The hypotheses corresponding to the above discussions are as follows:

H5a: There is a significant positive relationship between social influence and consumers' need for human interaction.

H5b: There is significant positive relationship between social influence and consumers' intentions to use Internet-only banks.

H5c: There is significant positive relationship between social influence and consumers' perceptions of the usefulness of the Internet-only banks.

8.3.4 Previous technological experience

It has been shown that previous experience influences the adoption of new products and services. Diffusion theory has concluded that previous experience of similar technologies may lead to the adoption of new products and services if these new product and service have similarities with other products which the consumers have used (Rogers, 1976). This previous experience may lead to the intention to use the innovation (as discussed in section 3.3.4.2.4).

The question of experience was introduced in TAM2, and several studies have shown that experience has an impact on attitude and behaviour, either directly or indirectly (Igarria & Chakrabarti, 1990; Igarria, 1992; Venkatesh & Davis, 2000; Venkatesh et al., 2003). Experience in using other self-service technologies such as IB will help consumers perceive the Internet-only banks as useful and easier to use. Bowen (1986) found that people who were more familiar with technologies which are similar to the innovation needed less orientation in order to understand their role in the new production process. Moreover, in their study of consumers' attitudes to and intention to use online shopping, Monsuwe et al. (2004) found that previous online shopping experience had a positive influence on both attitudes to and intentions to use online shopping websites. In addition, Francesca et al. (2009) indicated that previous experience of Internet shopping had increased the likelihood of purchasing online.

Moreover, Sait & Hussain, (2004) indicate that experience of Internet usage has had a significant positive influence on Saudi consumers' attitudes to IB. In addition, in their study of Saudi consumers' acceptance of tele-banking, Al Ashban and Burney (2001) found that experience has an influence on enhancing consumers' use of tele-

banking. As consumers gain more experience through their use of tele-banking, they will conduct more transactions by using the technology.

Those who are more technologically experienced are more convinced of the usefulness and ease of use of the technology. Experience has significantly moderated the effect of the relationship between perceived ease of use, perceived usefulness and usage intention. In their study investigating Pakistani consumers' acceptance of technology, Abbasi et al. (2010) found that experience moderated the relationship between usefulness and usage behaviour.

In their investigation of consumers' email acceptance decisions, Burton-Jones and Hubona (2006) found that even though system experience has a positive significant influence on perceived ease of use, it also has a positive but not a significant influence on perceived usefulness. Also, McKechnie et al. (2006) found that experience with the Internet has a positive influence on consumer attitudes to the Internet as a distribution channel. They indicate that individuals who have experience with the Internet tend to find the Internet as both useful and easy-to-use distribution channel.

Based on the above discussion, the following hypotheses are proposed, linking technological experience with perceived ease of use, perceived usefulness, perceived observability and perceived trust of Internet-only banks.

H6a: There is a significant positive relationship between consumers' technology experience and their perception of the ease of use of Internet-only banking.

H6b: There is a significant positive relationship between consumers' technology experience and the perceived observability of Internet-only banks.

H6c: There is a significant positive relationship between consumers' technology experience and their perception of the usefulness of Internet-only banks.

H6d: There is a significant positive relationship between consumers' technology experience and their perception of the perceived trust in Internet-only banks.

The above hypotheses are represented in figure (8-4).

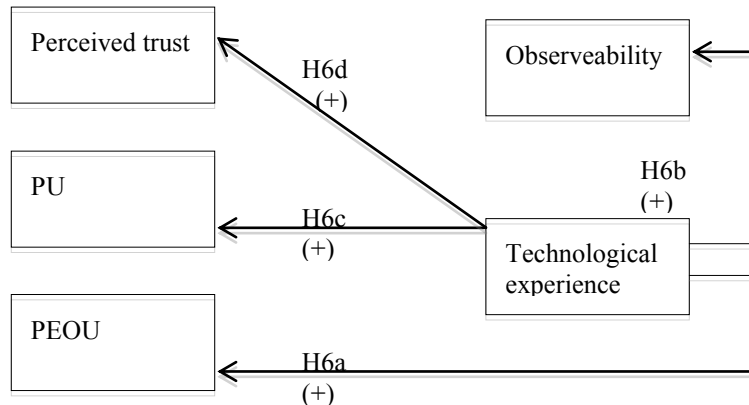


Figure (8-4). Illustration of the relationships tested in H6

8.3.5 Personal Innovativeness

Agarwal and Prasad (1998) have suggested that personal innovativeness is one of the variables that may influence individuals' acceptance of technology. The authors point out that personal innovativeness influences individuals' perceptions of usefulness. Therefore, it is to be expected that individuals who are more innovative will perceive Internet-only banks as useful.

Consumers' innovativeness has been discussed in marketing research for more than 30 years (Hoffmann & Soyeze, 2010). Personal innovativeness is one of the determinants of technology usage behaviour (Jones et al., 2002). Lee et al. (2007) found differences between highly innovative and less innovative travellers in terms of their online shopping. Highly innovative travellers were influenced by their attitudes while both their attitudes and their social network influenced less innovative travellers.

Moreover, research indicates that personal innovativeness may influence consumers' attitudes to new technologies (O'Cass & Fenech, 2003). In addition, Lu et al. (2005), indicate that behavioural sciences and individual psychology suggest that social influence and personal innovativeness are important determinants of adoption decisions.

Consumers' innovativeness has an influence on their technology adoption decisions (Agarwal & Prasad, 1999; Bhatti, 2007). Sait & Hussain, (2004), believe that innovators are more likely to adopt e-commerce in Saudi Arabia. In their study investigating consumer innovativeness, Hirunyawipada and Paswan (2006) analysed 746 responses and found that consumer innovativeness enhanced their adoption of new products. In contrast to Hirunyawipada and Paswan's (2006) findings, Abu Shanab et al. (2010) found that personal innovativeness had a negative effect on Jordanian consumers' intentions to use IB. The authors justify this negative relationship between personal innovativeness and consumers' IB usage intention by referring to Jordanian consumers' low awareness of IB and their misunderstanding of the meaning of personal innovativeness.

Innovative people take more risks and are more willing to accept innovations and try them before others. Internet-only banks are considered to be new method of banking, so at first, consumers may hesitate to use Internet-only banks. Internet-only banks have some similarities with IB as both rely on the Internet to deliver banking services. Aldás-Manzano et al. (2009) found that there is a negative relationship between consumers' innovativeness and their perceptions of risk in e-banking. Studies have also indicated that there is a negative relationship between personal innovativeness and perceptions of risk and uncertainty (Bhatnagar et al., 2000). Individuals with higher personal innovativeness tended to be more risk taking (Lu et al., 2005).

It is expected that innovative persons will perceive innovations as being easy to use and more useful. Lewis et al. (2003) found personal innovativeness to have a significant positive relationship with perceived usefulness and perceived ease of use. Lu

(2003) proposed that personal innovativeness determines users' perceptions of the short-term and long-term usefulness of wireless mobile technology, and its ease of use.

Not enough studies have been done on the relationship between personal innovativeness and the individual desire for personal communication. One of the studies that did investigate the relation between personal innovativeness and the desire for interpersonal influence is Clark and Goldsmith's (2006) study. In their study of the relationship between consumers' innovativeness and their tendency to interpersonal influence, attention to social comparison information, and role-relaxed consumption Clark and Goldsmith (2006: 34) collected data from 326 students at a large public university in the southeast United States. They found negative relationships between consumer innovativeness and susceptibility to interpersonal influence and attention to social comparison information. They also found a positive relationship between consumer innovativeness and role-relaxed consumption.

Based on the above discussion, the following hypotheses are proposed linking technological innovativeness with need for human interaction and perception of usefulness:

H7a: There is significant negative relationship between consumers' innovativeness and their need for human interaction.

H7b: There is significant positive relationship between consumers' innovativeness and their perception of the usefulness of Internet-only banks.

8.3.6 Innovation characteristics

The adoption literature has indicated that there is a significant impact of innovation characteristics and innovation diffusion (Roger, 1995). Roger (1995) lists compatibility, trialability, relative advantage, observability and complexity as the factors that significantly influence innovation adoption. "*Compatibility... is an indicator of how*

innovation fits a potential adopter's values and needs" (Vijayasathy, 2004: 750). Increased compatibility of the innovation has a positive influence on consumers' adoption behaviour (Tan & Teo, 2000; Harrington & Ruppel, 1999). Meuter (1999) proposes that innovation characteristics can have a direct influence on self-service-technology trials.

According to Al Gahtani (2004), three of the innovation characteristics indicated by Rogers (trialability, compatibility and observability), have significant positive relationships with Saudi employees' intentions to use computers.

In addition, there is a direct effect of innovation characteristics on consumers' adoption of self-service technologies. Trialability, compatibility, and observability are proposed to have an indirect effect on usage intention through their impact on perceived usefulness and perceived ease of use. Park (2007) found that compatibility has a significant positive relationship with perceived usefulness and perceived ease of use.

Based on the above discussion, the following hypotheses are proposed linking innovation characteristics with usage intention:

H8a: There is a significant positive relationship between consumers' perception of the trialability of Internet-only banks and their intention to use Internet-only banks.

H8b: There is a significant positive relationship between consumers' perception of the compatibility of Internet-only banks and their intention to use Internet-only banks

H8c: There is a significant positive relationship between consumers' perceptions of the observability of Internet-only banks and their intention to use Internet-only banks

H9a: There is a significant positive relationship between consumers' perceptions of the compatibility of Internet-only banks and their perceptions of the usefulness of the Internet-only banks.

H9b: There is a significant positive relationship between consumers' perceived trialability of Internet-only banks and their perception of the usefulness of Internet-only banks.

The above relationships, as tested on hypotheses H8 and H9, are presented in figure 8-5 below.

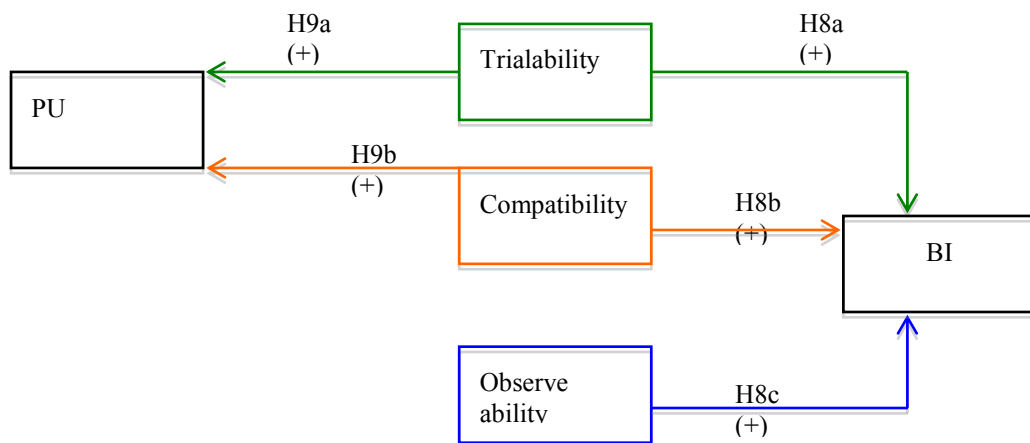


Figure (8-5). Illustration of the relationships tested in hypothesis H8 and H9.

8.3.7 Attitudes to Internet-only banks

Traditional banking involves the need to dress appropriately and to use public or private transportation or walk to reach the bank branch. At the bank branch, there may be opportunities to socialise with people. None of this applies to Internet-only banking. Some consumers have negative attitudes to branch banking, as it is time and effort consuming. On the other hand, online banking is described by many researchers as convenient, and as time and effort saving (Pikkarainen et al., 2004; Singhal and

Padhmanabhan, 2008). Therefore, it is expected that most consumers may eventually develop positive attitudes to IB.

The influence of attitude on consumers' behaviour has been investigated by several researchers (e.g., Davis et al., 1986, O'Cass & Fenech, 2003). Attitude is considered as important predictor of behaviour (Yang & Yoo, 2004). Abbasi et al. (2010) suggest that attitude has an influence on Pakistani consumers' Internet usage behaviour.

Although Shim and Eastlick (1998) found that the relationship between attitude and behaviour was weaker in a small setting, Jahng and Ramamurthy (2007) state that there is a positive relationship between consumers' attitudes to e-commerce and their intentions to use it.

In the context of the Saudi market Al Kaldi and Wallace (1999) indicate that attitude has a significant positive influence on Saudi technology acceptance. Moreover, attitude is a strong influence on consumers' intention to use online shopping (Vijayasathy, 2004). In their study investigating Saudis consumers' acceptance of e-commerce, Sait & Hussain (2004) found that Saudi consumers had positive attitudes to IB. They also established a positive relationship between attitudes and intention to use IB. According to Curran et al. (2003), the intention to use self-service technology is usually influenced by many hierarchical attitudes.

Attitudes mediate the relationship between consumers' intention to use technologies, perceived ease of use and perceived usefulness. Alsajjan (2009), found that attitude is an important predictor of adoption intention.

The influence of attitude on consumers' usage intention is also indicated by Jamal and Malik (2010) who found that consumers' perceived ease of use, perceived enjoyment, speed of delivery and attitudes to technological products had an indirect

influence on their intentions to use IB through their influence on service quality. Moreover, Lee (2008) indicates that perceived usefulness, attitudes and perceived benefits affect consumers intentions to use IB.

Based on the above discussion, the following hypothesis is proposed, linking attitudes to intention to use Internet-only banks:

H10: There is significant positive relationship between consumers' attitudes to Internet-only banking and their intentions to use it.

8.3.8 Perceived usefulness and perceived ease of use

TAM states that perceived ease of use does not have a direct influence on usage intention. Instead, it influences usage intention indirectly through attitudes (Davis et al., 1989). However, replication of TAM in different cultural and technological settings has indicated a direct positive significant relationship between perceived ease of use and usage intention (Vijayasathy, 2004). Moreover, Park (2007) discovered a significant positive relationship with perceived ease of use and usage intention. In addition, Roca et al. (2009) suggested that ease of use, usefulness, and trust could have an influences on stockbrokers' use of online systems.

Chong et al. (2010) found that perceived usefulness, trust and perceived government support are important factors that influenced consumer usage intentions for online banking in Vietnam. Eriksson and Nilsson (2007) found that consumers' perception of the usefulness of IB positively affects their continuing use. Moreover, Cho and Agrusa (2006) found that perceived usefulness is the important driver of people's adoption of online services.

In some studies, perceived usefulness showed a direct impact on intentions to use and its influence via attitude (e.g., Davis et al., 1989; Davis, 1993; Taylor & Todd,

1995a). Meanwhile, a few studies did not find a significant influence of perceived usefulness on the predicted future use of IS (Jackson et al., 1997; Dishaw & Strong, 1999; Lucas & Spitler, 1999). On the other hand, a few empirical studies tested ease of use as a predominant determinant of intention to adopt (e.g., Agarwal & Karahanna, 2000; Lowry, 2002; Warren, 2002; Al-Ubaydli & Deans, 2003; Henderson & Divett, 2003). In addition, a few studies have confirmed that perceived ease of use is a significant factor in usage intention.

Researchers have considered the complexity of the technology one of the barriers to the diffusion of the innovation (Roger, 1975; Vijayasarthy, 2004; Mattila et al., 2003). This is especially true with regard to older consumers. Researchers have indicated that those of 65 and over as tend to think that the complexity of IB steps and the webpages' designs discourage them from adopting IB (Mattila et. al., 2003).

A positive relationship between perceived ease of use and perceived usefulness has been established by researchers (Davis, 1989; Burton-Jones & Hubona, 2006; Barnes, 2009). In their investigation of consumers' email acceptance decisions, Burton-Jones and Hubona (2006) found a significant positive relationship between perceived ease of use and perceived usefulness.

One of the assumptions of TAM is that perceived ease of use and perceived usefulness can fully mediate the influence of external variables on individual attitudes to technology (Davis et al., 1989). Contrary to TAM, the assumption that perceived ease of use and perceived usefulness fully mediate external influences on attitudes, usage intention and actual use of technology, Burton-Jones and Hubona (2006), found that external variables could have a direct impact on usage behaviour.

Individual perceptions of the complexity and the benefits of the technologies may have an influence on consumers' trust in their ability to operate technologies to satisfy their needs. The impact of perceived ease of use and perceived usefulness on trust

in technology has not been investigated in-depth. Therefore, the hypotheses corresponding to the above discussion are as follows:

H11a: There is a significant positive relationship between consumers' perception of the usefulness of Internet-only banks and their intention to use Internet-only banking.

H11b: There is significant positive relationship between consumers' perception of ease of use of Internet-only banks and their attitudes to Internet-only banking.

H11c: There is a significant positive relationship between consumers' perceived usefulness of Internet-only banks and their attitudes to Internet-only banking.

H11d: There is significant positive relationship between consumers' perceived ease of use of Internet-only banks and their perception of the usefulness of Internet-only banking.

H11e: There is significant positive relationship between consumers' perceived ease of use and their perceptions of trust in the Internet-only banking.

H11f: There is a significant positive relationship between consumers' perception of usefulness and their perceptions of trust in the Internet-only banking.

The above relationships tested in the hypothesis are presented in figure (8-6) below.

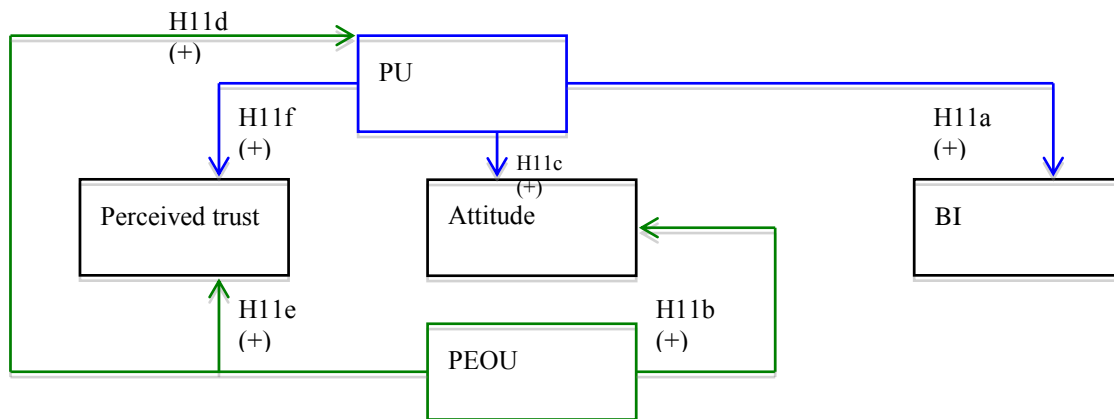


Figure (8-6). Illustration of the relationships tested in hypothesis H11.

8.3.9 Need for human interaction

Traditional banking services involve face-to-face communication between banking service providers and customer. This face-to-face interaction allows the development of interpersonal relationships between bank service providers and customers. Consumers differ in the importance they place on interpersonal interaction with service providers. Some consumers may have less appreciation of self-service-technology because it does not allow this human interaction (Dabholkar, 1999). On the other hand, some consumers prefer to use self-service-technology in order to avoid interacting with service providers (Meuter, 1999).

Jahng et al. (2007) found that interaction richness has a positive impact on consumers' attitudes to e-commerce. They indicate that this impact becomes stronger when the product is complex. This association between the complexity of the product and the need for more face-to-face interaction can also be employed in the service sector. It is more likely that consumers will prefer more rich interaction with banking services providers when they are about to conduct a more complex financial transaction, rather than when they are about to conduct a standardised money withdrawal. Mickey et al., (2002) found that the need for human interaction negatively influences investors'

intentions to adopt online trading systems. Jahng et al. (2007: 255) believe that the absence of the sense of touch and feel of the product and the lack of the immediate face-to-face interact with sales representatives will negatively influence e-consumers' attitudes and behaviour.

Age has been shown to have an impact on users' acceptance of technology (Mickey et al., 2002; Mattila et. al., 2003). The lack of human interaction may be one of the reasons behind old people's resistance to adopting technologies. Zeithaml and Gilly (1987) indicate that one of the reasons for the lack of use of ATMs by elderly consumers is related to their preference for human tellers. Similarly, Marr and Prendergast (1991) mentioned that one of the reasons for not using technology is the preference for human contact. Moreover, in their follow-up study of the banking sector Marr and Prendergast (1993) found that bank managers believe that one of the reasons that discourages bank consumers from adopting e-banking is their preference for dealing with humans.

Conducting transactions face-to-face allows for immediate feedback and real time discussions between service providers and consumers. This may affect consumers' attitude to the service. Moreover, a social presence is important for some consumers, as they believe that a "*social presence will satisfy the need for language variety and cognitive clarifications*" (Jahng et al., 2007: 256). A hypothesis corresponding to the above discussion follows:

H12a: There is a significant negative relationship between consumers' need for human interaction and their attitude to Internet-only banks.

H12b: There is a significant negative relationship between consumers' need for human interaction and their perceptions of the usefulness of the Internet-only banks.

8.3.10 Perceived risk

The concern about risk is much higher in the online environment because it is perceived that personal and financial information are in danger of interception and fraud. Therefore, it is important to satisfy consumers' security concerns when they conduct online financial transactions (Lee & Turban, 2002). Security is a major issue that concerns most Internet users. In online banking, where financial transactions are usually conducted, this fear becomes more intense. In his research into consumers' adoption of online banking, Sathye (1999) found that 70 percent of customers expressed concerns about security. Suh and Han (2002) indicate that most Internet users fear revealing their financial information online. Internet security is one of the most important determinants of consumers' intentions to use online banking (Cheng et al., 2006). The Internet is usually not trusted by customers for three reasons: the reliability of the service, distrust of the providers, and security (Rotchanakitumnuai & Speece, 2003).

Consumer perceptions of security, the accuracy of transactions and their perceptions of the friendliness and speed of the system are considered important for the success of online banking (Laio & Cheung, 2002). On the other hand, lack of security was also found to be one of the major barriers to IB adoption (Fitzgerald, 2004). In his research into IB adoption in Kuwait, Aladwani (2001) indicates that customers mentioned security, Internet banking regulations, privacy and bank reputation are the most important factors that could discourage them from adopting IB. Perceived risk has been shown to influence adoption behaviour (Venkatraman, 1999). In their study of IB adoption, Polatoglu and Ekin (2001) refer to perceived risk and customer satisfaction as important factors that can influence IB adoption. Abu Shanab et al. (2010) found that perceived risk has a negative relationship with Jordanian consumers' intention to use IB.

In their research into IB adoption, Polasik and Wisniewski (2009) analysed 3519 questionnaires completed by Polish Internet users. They found that the perceived

security of Internet transactions and previous experience in using Internet and demographic variables were the main predictors of consumers' intentions to use IB.

While the issue of online security has been raised by the majority of researchers (Sathye, 1999; Fitzgerald, 2004; Cheng et al., 2006), privacy is considered by Aladwani (2001), as an important factor that may restrict e-commerce. Moreover, Lee (2008) found that three dimensions of perceived risk (financial, security, and privacy) affected online banking usage intentions. Other researchers found that privacy is not as important in e-commerce as it had been previously thought (Vijayasathy 2004; Pavlou 2011). Perceived risk has indirect influence on technology usage intention through its impact on attitudes. According to Rotchanakitumnuai and Spence (2003), perceived risk is negatively related to consumer attitudes to IB.

Consumers' perceptions of risk may influence their innovativeness as they will be less interested in trying innovations if they think they are risky or not giving enough value in comparison to price. Hirunyawipada and Paswan (2006) state that financial risk had a significant negative impact on consumer's new product adoption, while time, performance, network and psychological risks had no significant impact on consumers' new product adoption.

The relationship between perceived risk and trust has also been investigated. Roca et al. (2009) found that perceived security is important in building trust in online systems. Grabner-Krauter & Faullant (2008) studied Austrian customers' acceptance of IB. They indicated that consumers' trust, perceived risk, and attitudes affect consumers' adoption decision. The hypotheses corresponding to the above discussion are as follows:

H13a: There is a significant negative relationship between consumers' perception of risk of Internet-only banks and their intentions to use them.

H13b: There is a significant negative relationship between consumers' perception of risk of Internet-only banks and their perceptions of the usefulness of Internet-only banks.

8.3.11 Trust in the Internet-only banks

Trust is important factor that influences consumers' acceptance of e-commerce (Jarvenpaa et al., 2000; Gefen et al., 2003; Page & Luding, 2003; Grewal et al., 2004; Harris & Good, 2004). Khalil and Pearson (2007), conclude that trust significantly effects online banking adoption. According to Yousafzai et al. (2003), consumers identify trust as an important issue in e-commerce development. The issue of trust could be considered as more significant in online banking compared to offline banking (Suh & Han, 2002). As face-to-face and paper guarantees are almost eliminated in the online environment, Mukherjee and Nath (2003) found that trust has a significant positive influence on consumers' commitment. Trust is important in the development of positive attitudes to e-commerce (Pavlou & Fygenson, 2006). Krauter and Faullant (2010) indicate that trust is an important determinant of Australian consumers' attitudes to online banks.

Stewart (1999), indicates that there is a general lack of consumer trust in the Internet as a distribution channel. The importance of trust becomes even more critical when transactions involve financial exchange. In their study of IB adoption in Jordan, Abu Shanab et al. (2010) found that perceived trust was one of the significant predictors of Jordanian consumers' intentions to use IB. Customers usually do not buy from e-retailers that they do not trust (Jarvenpaa et al. 1999).

The importance of trust becomes fatal when the degree of uncertainty rises. According to Gefen et al. (2003) trust must be included as an important prediction variable when the exchange situation involves social uncertainty and risk. Trust can be attributed to the provider or the technologies. Grabner-Krauter & Faullant (2008) state that trust in IB is

rooted in trust in interpersonal relationships and trust in technological systems. A hypothesis corresponding to the above discussion follows:

H14: There is a significant positive relationship between consumers' perception of trust on the Internet-only banks and their intention to use Internet-only banks.

8.3.12 Personal religiosity

Religion is one of the important elements of culture that has been suggested to have an influence on consumers' purchasing decisions (Hirschman, 1981; Delener, 1990a; Essoo & Dibb, 2004). Religiosity is defined as a belief in God accompanied by a commitment to follow principles believed to be set by God (McDaniel & Burnett, 1990: 103).

Delener (1990b) states that religiosity is one of the important cultural elements that influence consumer behaviour. Several researchers have stated that religiosity influences consumers' attitudes, lifestyle, values, and habits (Delener 1990b, 1994; Hirschman, 1983). Mokhlis (2006) finds that religion is a significant factor in consumer behaviour as it influences consumers' perception of advertising messages, their innovativeness, their family decision making, their consumption patterns, their purchase risk aversion, their media usage, and selected retail store patronage behaviour.

Shah et al. (2009) state that religiosity influences Muslim consumers' purchasing behaviour. Shreim (2009) found that Muslims' religiosity influences their choice of sports products. The more religious Muslim consumers are, the more attention they give to ensuring that their sports clothing meets their Islamic obligations.

Although religious influence on technology acceptance has been established by researchers (Parbotech et al., 2005; Barnes, 2009), Aleid and Fairweather, (2009) state that religious reasons did not emerge as an influence on Saudi consumers' e-commerce adoption decisions.

Tansuhaj et al. (1991) investigated the role of cultural values on consumers' willingness to try new products. They found that the cultural values of fatalism, traditionalism, and religious commitment explain the variations in innovation resistance across cultures. The religious impact on Muslim consumers' innovativeness has been investigated. In their study of the diffusion of new leather products among Muslim Iranian consumers Hanzaee and Ramezani (2011) found that less religious consumers had tended more to adopt new products than more religious consumers. Hanzaee and Ramezani (2011) believe that less religious consumers are more flexible. Therefore, they do not spend much time investigating innovations. This tends to lead to quicker diffusion of innovation among them, compared to highly religious consumers who spent much time investigating the prohibitions of the innovation from a religious perspective. This causes delays in the diffusion of innovation among them.

Amin and Pagar (2010), investigated the factors that determine Malaysians use or non-use of ATMs. In their study they extended the TAM model by including credibility and perceived religiosity. Their results indicated that perceived ease of use, perceived usefulness and perceived religiosity are the main predictors of consumers' intentions to use ATMs. The hypotheses corresponding to the above discussion are as follows:

H15a: There is a significant positive relationship between consumers' personal religiosity and their intention to use Internet-only banks.

H15b: There is a significant positive relationship between consumers' personal religiosity and their attitudes toward Internet-only banks.

H15c: There is a significant negative relationship between consumers' personal religiosity and their innovativeness.

Religiosity and technology have a compatible rather than a contradictory relationship (Neuman, 1997). Barnes (2009) mentioned the strength of religious faith, along with trust in beliefs as external variables of TAM and identified indirect relationships between the strength of religious faith and perceived usefulness and perceived ease of use through the influence of strength of religious faith on benevolence as one of the components of trusting beliefs.

Parbotech et al. (2005) propose the importance of taking different dimensions of religiosity into account when studying the influence of religiosity on technology acceptance. They also stress the importance of more fieldwork to investigate the impact of national culture and social institutions (degree of industrialisation, degree of social inequality, and religiosity) on technology acceptance. Hypotheses corresponding to the above discussion are as follows:

H15d: There is a significant positive relationship between consumers' personal religiosity and their perception of trust in Internet-only banks.

H15e: There is a significant positive relationship between consumers' personal religiosity and their perception of the ease of use of Internet-only banks.

Several studies have been conducted to investigate the factors that may affect Muslim consumers' adoption of Islamic banking. The authors generally found that religiosity is a significant determinant of Muslim consumers' adoption decisions. Erol & El-Boudr (1989) indicate that most consumers choose Islamic financial services out of religious preference rather than using more rational selection criteria, such as costs, benefits and convenient access to financial services.

The strength of Muslims' religious beliefs may make them use products and services that they are not totally convinced by, if they have been advised by religious leaders that these products or services are consistent with their faith. *“Although UK*

Muslims were largely ill-informed about Islamic methods of finance, religious motivation comprised the most significant factor in their strong preference of Islamic banking services” (Gait, 2008).

According to Yavas (1988), religious values play an important role in Saudi consumers’ banking decisions. Yavas believes that Saudi consumers’ Islamic values are more important in shaping their banking decisions than the influence of rational criteria in choosing a bank. Also Gait (2008) suggests that Muslims’ choice of Islamic financial services is mainly based on religious motivations. The hypotheses corresponding to the above discussion are as follows:

H15f: There is a significant positive relationship between consumers’ personal religiosity and the importance they give to obtaining Islamic banking services through Internet-only banking.

H15g: There is a significant negative relationship between the importance that consumers give to obtaining Islamic banking services through Internet-only banks and their attitudes to Internet-only banking.

In their study of the relationship between social institutions, national culture and the perceived usefulness of information technology, Parbotech et al. (2005) argue that more religious societies usually perceive technologies as being less useful. Religious leaders have an important role in innovation acceptance or rejection decisions Hashim and Mizerski (2010) studied the nature of religious rulings (Fatwa) among Muslim consumers. They found that a ‘fatwa’ could cause Muslim consumers to ban and boycott products and services. They also stated that the image of a brand in the Islamic world could be damaged if a ‘fatwa’ has been declared against it. The opinion of religious leaders is important to Muslims because they believe that in following their religious leader’s advice and opinions, they are fulfilling Allah the Almighty’s command. One of the holy verses from Noble Qur’an states the importance of religious leaders (see chapter

6, section 6.5.1.1). According to Al Saady 2011; Ibn Khatheer, 2011; Al Baghawi, 2011, Muslims should refer to knowledgeable religious leaders for advice and opinion. Hashim and Mizerski (2010: 5) refer to religious leaders' advice and opinion as 'fatwa', and state that "*A fatwa declaration is a product of Islamic scholars (Ulama) interpreting and adapting Quranic verses and Hadith in respect to contemporary issues*". "*Great religious figures are admired for their high moral standards and values*" (Saroglou et al., 2004: 721).

Muhamad (2008) emphasises the importance of 'Fatwa' as he believes it influences Muslim consumers' purchasing and consumption through its role of permitting or prohibiting products or services. On the other hand, Hashim and Mizerski (2010) state that the type of 'fatwa' related to financial issues and banking are important to Muslim consumers seeking religious advice through the Internet. "*Fatwa rulings can be declared in response to new technology, innovations or new products in the marketplace*" (Hashim & Mizerski, 2010). Barnes (2009: 121) believes that religious leaders' opinions are important in facilitating the diffusion of technologies within societies: "*The corollary is that communities with strong religious faith may be among the leaders rather than the followers when it comes to technology acceptance; if those with higher religious faith are more trusting and accepting of electronic commerce, then they may be the ones paving the way for less trusting and accepting individual with less religious faith.*"

Kalliny & Hausman (2007: 127) state, "*Products that are viewed by religious leaders as exerting a societal force contrary to the teachings of the religion are easier to criticize than other products*". Therefore, in countries where religion is not separate from state, it is important to involve religious leaders in any innovative launch campaign. Marketers could gain benefits by approaching religious leaders and convincing them of the merits of the innovation. First, this would decrease resistance to the innovation. Second, religious leaders could be helpful by advising their followers to

adopt the innovation. The hypotheses corresponding to the above discussion are as follows:

H15h: There is a significant positive relationship between consumers' personal religiosity and their willingness to accept religious leaders' advice.

H15i: There is a significant negative relationship between consumers' willingness to accept religious leader's advice and their attitudes to Internet-only banking.

Religiosity may influence consumers' preferences for human interaction. Religious people tend to be more interested in building relationships with others. Ellison (1992) mentioned that people who engage in frequent religious activities are reported to be more open and less sceptical, and more enjoyable to interview, than their less religious counterparts. In addition, *“respondents for whom religion serves as an important source of moral guidance are also viewed as friendlier, more interested, and more open than those for whom this aspect of religion is less salient”*.

Personal religiosity has a positive relationship with the values of conformity. People who are more religious tend to place importance on other in-group opinions. Karijn Bonne et al. (2007) indicate that Muslims with strong self-identity are more influenced by their group in their attitudes to 'Halal' meat, while those Muslims with low Muslim self-identity are more influenced by their personal convictions. Therefore, it could be concluded that religion is not enough to shape attitudes to different products and services, but that it is the degree of religiosity that influences the degree of perceived control that people have over their behaviour. It also influences the value one gives to the opinion of others or scholars who share the same religion. Therefore, it is expected that there is a positive significant relationship between personal religiosity and social influence. The hypotheses corresponding to the above discussion are as follows:

H15j: There is a significant positive relationship between consumers' personal religiosity and social influence.

H15k: There is a significant positive relationship between consumers' personal religiosity and their need for human interaction.

Researchers have indicated that religiosity is positively related to perception of risk. Highly religious people are more risk avoidant (Fitzgerald, 2004). In their study Parboteech et al. (2005) found that a positive relationship between religiosity and perceived risk of new products, and that people who live in countries with high religiosity perceived new products as being high in risk.

The influence of personal religiosity on individual risk taking behaviour has been investigated in several studies (John et al., 1986; Gentry et al., 1988; Miller, 2000; Fitzgerald, 2004; Williamson et al. 2007). The studies indicate that there is a positive relationship between personal religiosity and perceived risk and a negative relationship with attitudes to taking risks.

In his study investigating risk preferences between genders; Fitzgerald (2004) found that there is a relationship between religiosity and risk preferences. Uncertainty is related to risk-taking behaviour. People who tend to be lower risk takers avoid situations with low certainty. New products contain some uncertainty about their outcomes. Therefore it can be assumed that people who avoid uncertainty will prefer not to adopt these products. According to John et al. (1986) there is a relationship between willingness to try new products, perceived risk and religious commitment. Moreover, Gentry et al. (1988) reported that people in areas where levels of religious commitment are higher perceive higher levels of risk with new products. A hypothesis corresponding to the above discussion follows:

H15l: There is a significant positive relationship between consumers' personal religiosity and their perception of risk in Internet-only banks.

The relationships tested in hypothesis 15 are presented in figure (8-7).

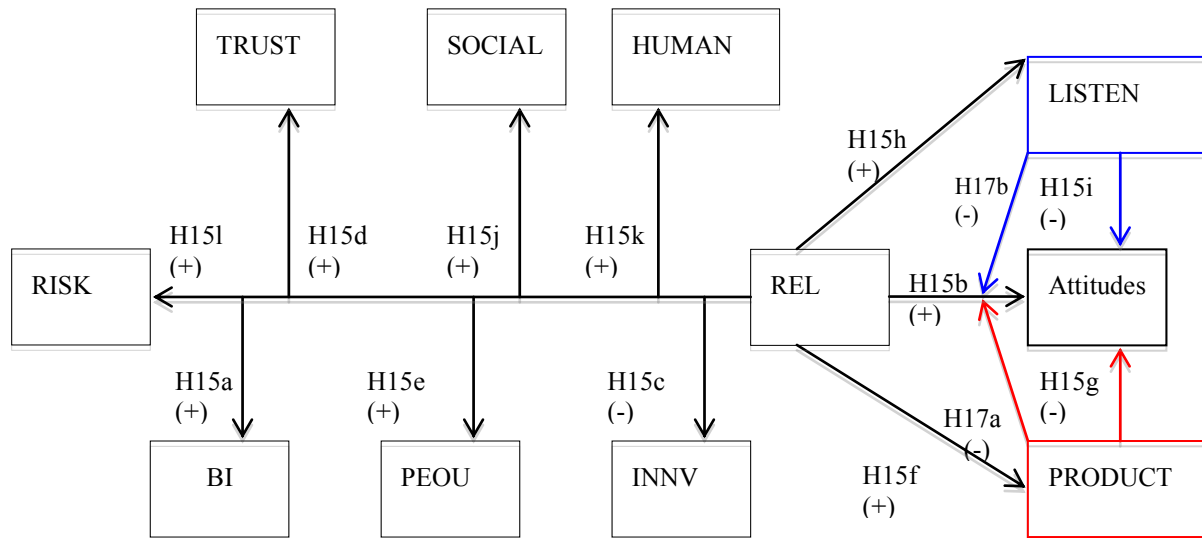


Figure (8-7). Illustration of the relationships tested in hypothesis H15.

8.3.13 Moderating effects

Baron and Kenny (1986: 1174) defined moderator variables as “variables that effect the direction and or strength of the relation between independent or predictor criterion variable”. The review of literature on personal values in information science indicates that personal values have a moderating role on the relationship between attitude and usage behaviour (Park, 2007). Personal values moderate the relationship between attitude and behavioural intention (Meglino & Korgaard, 2004). Moreover, Stanovich and West (1999) argue that values will moderate the relationship between external information and evaluation. Moreover, according to Ajzen (1988), the moderation approach to individual difference variables is assumed to interact with attitudes to behaviour.

H16a: Conservative values (security, traditionalism and conformity) negatively moderate the relationship between Muslim consumers' attitudes to and intention to use Internet-only banks.

H16b: Openness to change values (stimulations, self-direction, and hedonism) positively moderates the relation between Muslim consumers' attitude to and intentions to use Internet-only banks.

H16c: Self-transcendence values (universalism and benevolence) positively moderate the relationship between Muslim consumers' attitude to and intention to use Internet-only banks.

H16d: Self-enhancement values (achievement and power) positively moderate the relation between Muslim consumers' attitude to and intention to use Internet-only banks.

In the other hand, Kalliny and Hausman (2007) suggest that there is a moderated effect of product type on the relationship between religious values and consumers' adoption of new products.

H17a: The influence of religiosity on attitude will be negatively moderated by Muslim consumers' willingness to accept religious leader's advice.

H17b: The influence of religiosity on attitude will be negatively moderated by the importance Muslim consumers give to obtaining Islamic banking through Internet-only banks.

8.3.14 Mediating effect

Religious belief clearly has an influence on individuals' technology usage intention. In his study, Barnes (2009) indicates that there is an indirect positive relationship between the strength of religious faith and behavioural intentions through benevolence as one of the components of trusting beliefs. The influence of religion on consumers' intention to use technologies could be strengthened or weakened by other factors related to consumers' personality or their social life. For example, consumers may be motivated by their religious beliefs to use the Internet to attend religious prayers or lecture. However, their fear of risk if someone could encroach on their privacy would negatively influence their decision to use the Internet. On the other hand, factors such as social influence could enhance the relationship between religiosity and consumers' intention to use technology. For instance, friends and family could influence the person and convince him/her to fulfil his religious duties online:

H18: (a) Perceived risk, (b) social influence, and (c) perceived trust mediate the relationship between personal religiosity and behavioural intention.

H19: Perceived ease of use mediates the relationship between personal religiosity and attitudes to Internet banks.

8.4 Questionnaire development

In this section, introduction to survey research design and method, the advantages and disadvantages of the survey design, brief review of the online questionnaire, research questionnaire instruments, the justifications for using the survey design and the development and distribution strategy of the research questionnaire are discussed.

8.4.1 Introduction to survey research design and method

Survey research is one of the most commonly used quantitative methods (Vitalari & Venkatesh, 1991). It is widely accepted research method among social science researchers in studying cross-cultural issues (Hofstede, 1980; Schwartz, 1992; Babbie, 2001). The survey method is also one of the widely used methods in consumer behaviour and religion researches (Hirschman, 1982b; Delener, 1990; Lindridge, 2005). It is also used extensively in the field of technology acceptance (Dabholkar, 1996; Geffen, 1997; Agarwal, 1998; Cheung, 2000; Al Gahtani, 2004; Brown & Buys, 2005; Al Somali et al., 2009).

Fink (1995: 1) defines a survey as “*a system of collecting information to describe, compare, or explain knowledge, attitude, and behaviour*”. A survey design is suitable for the quantitative section of this thesis for several reasons. First, the variables of interest in this study are difficult for the researcher to manipulate (Emory & Cooper, 1991). Second, the targeted participants are scattered over a wide geographical area (Marshall, 2005). The present researcher is interested in investigating consumer awareness and attitudes to new technologies. According to Zikmund (2003), surveys are usually designed to measure awareness, knowledge, behaviour and opinions.

The primary survey method for collecting data for the quantitative section of this research is a self-reported questionnaire. The questionnaire method has been chosen for several reasons. First, because there have been a few studies that have investigated the influence of religiosity and values on consumers' intention to adopt Internet-only banks. Therefore, this study aims to collect data to obtain a broad view of the influence of religiosity and values in consumers' technology adoption behaviour. Survey research is probably the best method to be used in order to collect data that are useful to describe large population (Babbie, 2001). This study uses questionnaires as an economical way to reach a population that is geographically distributed across Saudi Arabia. The second part of this study concentrates on the influence of consumers' perceptions of ease of use,

usefulness, and the risk of consumers' intention to use technology-based services. According to Marshall (2005), a questionnaire has the advantage of capture respondents' attitudes and opinions in regard to persons and things. Table 8-4 below summarises the advantages and disadvantages of the questionnaire as a data collection method.

Table (8-4). Advantages and Disadvantages using the questionnaire as data collection method

Advantages	Disadvantages
It is useful in gathering information about attitudes, intention, and motives.	The standardisation of the questions make them suitable for most respondents but may not be appropriate for achieving a clear understanding of what respondents really feel and think.
It is helpful in maintaining participants' privacy as participants usually respond to a questionnaire in an anonymous way.	It is not flexible tool, as it cannot be changed through data collection.
It is relatively less expensive.	There is a need to ensure that a large proportion of the sample will respond to the questionnaire.
It is useful in describing the characteristics of a large population.	Sometimes it is hard for respondents to recall information in order to answer some controversial questions.
It can be administrated from a remote location by using mail, email, or any other electronic communicating device.	Some individuals may choose not to respond to the questionnaire, which makes the response rate relatively low.
It allows more chances to ask more questions.	It cannot be used in communities who cannot read.
It allows standardisation of wording and a clear arrangement of the questions, which makes it more precise.	The researcher has no idea if the target respondent is the one who fills in the questionnaire.
The researcher can get an access to respondents over a wide geographically area in a relatively short time at less cost.	Researcher cannot clarify any confusion that the questions may cause.
It is relatively cheaper and requires less effort compared to other survey tools.	Little flexibility is allowed for respondents to present their own issues, unless there are some open-ended questions within the questionnaire.
It provides sufficient time for the respondent to think about answers, which reduces pressure on them. This makes them answer questions in a way that is more objective.	It does not allow the researcher to probe the respondents to make sure they give the right answers or understand the question.
Relative to other data collection methods, it does not take much time to complete.	
It can be used with large sample, which will raise the chances of getting statistically significant results.	

Source: Wright, 2005; McClelland, 1994; Marshall, 2005.

A questionnaire design has been chosen because it is the most suitable method for the purpose of this study. This is considered as an economical method of gathering data on a nationwide basis, and has been recommended by several researchers (McClelland, 1994; Wright, 2005; Marshall, 2005).

8.4.1.1 Brief review of the online questionnaire

The Internet may be considered to be a useful tool for data collection by researchers from a variety of disciplines. Conducting an online survey allows the researcher to gain access to groups and individuals who may not find it easy to use the traditional survey channel. This also saves the researcher time by allowing him/her to reach thousands of people with similar characteristics in a short time and at less cost, even though these groups and individuals are located in different geographical areas. Money can be saved by eliminating the use of paper, as online surveys use the electronic medium (Wright, 2005)

Despite these valuable advantages of online surveys, they suffer from the same limitations as any other data collection method. Relatively little is known about the characteristics of online communities, self-selection bias, and accessibility problems as the researcher usually accesses potential respondents by posting invitations on chat room, discussion groups, email groups or community boards. This may be considered by members of online communities as being inappropriate (McClelland, 1994). Therefore, both paper-based and online-based questionnaires are used. As discussed in section 5.4.2, Internet penetration in Saudi Arabia is about 41 percent. Relying only on an online survey will deprive researchers access to rural areas and to those who do not have an Internet connection.

8.4.2 Research questionnaire Instruments

The questionnaire consists of 21 sections and is summarised in table 8-5. The following section describes in detail the process undertaken in developing the survey instrument. A

copy of the research instrument is available in appendix A-1. The questionnaire starts with a covering letter with a university logo on it. The covering letter explains the purpose of the study, gives a short definition of Internet-only banking and requests the respondents' cooperation. It also confirms that all the information collected in the questionnaire will be handled with regard to privacy and will be used for research only. The questionnaire is arranged with related items for each scale grouped together within the construct. This arrangement is followed to make it easier for participants to have one question flow into another (Foddy, 1993).

Table (8-5). Summary of the research model variables and their sources

Section	Variables	No. of items in the scale	Main source
A	Demographic characteristics	11 items	The researcher
B	E-banking methods ranking	5 items	The researcher
C	Previous Experience	3 items	Meuter (1999)
D	Awareness	4 items	(Al Somali et al., 2009)
E	Perceived ease of use	4 items	(Venkatesh et al., 2003)
F	Perceived usefulness	6 items	(Venkatesh et al., 2003)
G	Usage intention	3 items	(Venkatesh et al., 2003)
H	Attitude	4 items	(Davis, 1989)
I	Personal Innovativeness	7 items	(Parasuraman, 2000)
J	Perceived risk	5 items	(Aldas-Manzano, 2009)
K	Compatibility	3 items	(Moore & Benbasat, 1991)
L	Trialability	3 items	(Moore & Benbasat, 1991)
M	Observables	3 items	(Moore & Benbasat, 1991)
N	Type of banking services	1 item	The researcher
O	Religious personality	33 items	(Krauss & Idris, 2007)
P	Willingness to listen to religious leaders	2 items	The researcher
Q	Need for interaction	3 items	(Dabholkar, 1996)
R	Social influence	3 items	(Venkatesh et al., 2003)
S	perceived trust	3 items	(Barnes, 2009)
T	Human Values	21 items	(Davidov et al., 2008)
W	Open-ended questions	3 questions	The researcher

Because of the scarcity of updated and reliable instruments in Arabic for assessing the effect of values, human interaction, social influence and other related factors on consumers' intentions to adopt technologies, the current study translates some

of the widely cited and used Western-developed instruments which have been validated and found to be reliable. However, for the religiosity scale the researcher found it inappropriate to use Western-developed religiosity measurement scales, which were usually developed to measure Christianity or Judaism, for the Islamic religion. Therefore, the researcher chose to use an Islamic religiosity measurement scale developed to suit different Muslim denominations and both genders (as discussed in section 4.2.8). Table 8-5 presents the scales used and the sources from which they have been adopted.

Some respondents usually regard demographic questions as personal (Dillon et al., 1990). This part of the questionnaire consists of a fairly standard list of demographic and socioeconomic questions, with 11 questions in total, including gender, age, marital status, educational level, occupation, type of bank account, nationality, and name of the bank respondent has an account with, all of which are important variables in examining consumers' acceptance of technologies.

to make it easy to complete the questionnaire, most of the response formats used for demographic variables were categorical formats in which respondents were asked to tick the appropriate box. The questions were open-ended apart from those about nationality, the name (names) of the bank (s) the respondent had an account with, and the Saudi province the respondent lived in.

The decision to present these questions in an open-ended fashion rather than a categorical format was taken because three of these questions (nationality, the name (names) of the bank (s) the respondent has an account with) are sensitive. Moreover, the numbers of the options for these questions are quite large and cannot be presented as categories without influencing the quality of the data. Therefore, it was wiser to ask the respondents to deliver such information themselves.

“Asking the same question in countries with different cultures, traditions, beliefs, and language” makes the process more difficult. The same concept may have a different meaning in different cultures. Therefore, it is essential that the questionnaire translation conveys a consistent message in different cultures (Iarossi, 2006: 85–86). Therefore, it is necessary to validate the data collection instrument translation before using it. The following steps outline the back translation technique used:

First, the questionnaire is translated from its original language to the foreign language. Then, the translated version is then translated back into the original language. After that, the two versions of the questionnaire (the original and the back translated) are then compared and corrected. And then, the revised translated version is then translated back into the original language for comparison, and the process keeps going until there is no more inconsistency between the two versions (Iarossi, 2006: 86).

As discussed in section 8.2 in this chapter, for the purposes of this study the questionnaire was first translated into the Arabic language by the official translation office. Another copy of the questionnaire was translated by an independent official translation office. Both offices are located in Saudi Arabia. Then both copies of the translated questionnaire then compared by an independent bilingual person. After resolving any differences between the two translated questionnaires, the researcher sent the questionnaire to two Saudi university professors who work in the English department faculty to back translate the questionnaire into English. The process continued until a final version of was created.

The questionnaire consisted of 134 items to measure all variables of interest related to the adoption of Internet-only banks. This includes measurement of behavioural intention, attitude, perceived ease of use, perceived usefulness, perceived risk, perceived trust, personal religiosity, willingness to accept religious leaders’ advice, human values, need for human interaction, trialability, compatibility, observability, awareness, previous technological experience, personal innovativeness, and social influence. Almost all the scales included in questionnaire were adapted from existing multi-item scales.

Scales in the questionnaire assessing the constructs of interest consist of seven-point Likert questions, except for questions on personal religiosity and human values. In the personal religiosity scale a five-point Likert scale was used and in the human values scale a six-point Likert scale was used. The decision on the number of points in each scale was mainly dependent on the original version of the adapted scales.

In addition, three open-ended questions were used at the end of the survey to assess any additional areas of interest relating to the adoption of Internet-only banking services. Demographic information was collected at the beginning of the questionnaire, using both open and closed ended questions.

8.4.3 Questionnaire administration

This section consists of two subsections. The first subsection discusses the process the researcher followed in pilot testing of the research questionnaire, and the second subsection discusses the questionnaire distribution process.

8.4.3.1 Pilot testing the research questionnaire

The first draft of the questionnaire was distributed manually in Saudi Arabia as a pilot study. A total of 70 useable questionnaires was obtained and analysed. Depending on the results of the analysis of the first wave of the questionnaire distribution and respondents' remarks about questionnaire wording and arrangement, the researcher made some modifications to the wording of some questions and the arrangement of questionnaire sections in a way that suited respondents' preferences.

For the second wave of distribution for a pilot study, the questionnaire was designed using one of the leading Internet survey website (Qualtrics.com). After developing the questionnaire, the researcher posted the questionnaire on an online link with Internet forums in both the United Kingdom and Saudi Arabia. The questionnaires

were posted in three Internet forums operating in the United Kingdom and in four Internet forums operating in Saudi Arabia. The questionnaire was also sent to respondents through three email groups; two of them related to respondents living Saudi Arabia while one was related to respondents living in the United Kingdom. The response rate was low. A total of 80 completed questionnaires out of 210 responses were available for analysis, so the researcher modified the questionnaire for a second time. The wording of the questionnaire and the arrangement of items within each scale, along with the arrangement of the scales within the questionnaire, were changed according to the respondents' preferences.

After the last draft of the questionnaire had been prepared, it was sent to three marketing department faculties working in three Saudi universities to obtain their advice about the final questionnaire. After modifying the questionnaire according to the faculties' advice, it was distributed both online and offline. The questionnaire distribution process is described in the next section.

8.4.3.2 Research questionnaire distribution process

Data was collected using both a paper-based survey and a web-based survey system. Three different methods were used to recruit participants:

First, about 1,000 paper-based questionnaires were distributed to people in six cities (Riyadh, Makah, Jeddah, Buriydah, Bahah, and Tabuk) in Saudi Arabia. The questionnaire included information such as: 1) the purpose of the study, 2) the type of participants, and 3) the researcher's contact information (copies of English and Arabic questionnaire available in appendix (A-1 and A-2)). In each city, a person was assigned to arrange and distribute a paper-based questionnaire to those willing to cooperate with public institutions and private companies. The paper-based questionnaires were distributed within a period of three months between June and August 2011.

Second, about 500 questionnaires were distributed by email. In order not to interfere with the privacy and security of others and to ensure that those who receive the email would not treat it as spam, the researcher asked her friends and relatives to provide her with the emails of those who are willing to participate in completing the questionnaire. The list of emails was arranged by the researcher. So instead of sending the questionnaires out all at one time the researcher decided to send them in waves, in order to identify and solve any potential problems. In the first wave of email questionnaire distribution, the researcher sent the questionnaire to 50 email recipients, choosing randomly from the email list which had been gathered previously. The email included descriptions of the study, along with a link to the electronic version of the questionnaire. It was surprising that almost half of the respondents sent the email back, with some asking where the questionnaire was, and some complaining that they could not access the website where the questionnaire was located. This misunderstanding of how to use the electronic questionnaire and the difficulty of logging in to the e-questionnaire made the researcher modify the content of the email, which has later sent to the entire email list. In the next wave of sent emails the researcher included a Microsoft Word copy of the questionnaire as an attachment to the email, along with a description of the study and a link to the e-questionnaire. The researcher recognised that not all respondents may have the latest version of MS Word, so the questionnaire was saved as MS Word 2003 so it would be compatible with most people's software. In addition, the file was virus scanned so as not to cause any inconvenience to any of the email respondents.

Third, an e-copy of the questionnaire was distributed through Internet forums and email groups. Most Saudi cities and even villages have their own online communities, which they refer to by the name of the city or village. These communities are called cyber forums. Within each forum, there are participants with different ages, education, income and both genders. The characteristics of the forum usually reflect the characteristics of the cities or the village of origin. For that reason, the researcher chose to post the questionnaire in those online forums rather than on professional or student forums. As a first step in questionnaire forum distribution, the researcher compiled a list

of Saudi cities and villages' online forums. Realising the importance of the online forums and needing the administrators' approval to post the questionnaires on their website, the researcher corresponded with the online forum administrators to ask them for approval and support. Most of the online forum administrators were very generous and helpful, allowing the researcher to post the questionnaire, and some of them offered help by posting the questionnaire in a recognisable place within the online forum, and this motivated the online members to participate on the questionnaire. The questionnaire was posted to 31 online forums. Appendix (D-1) presents the names and the link to the online forums to which the questionnaire was posted.

In regard to email groups, the researcher contacted four of the email group administrators and asked them to distribute the questionnaire within the group. They were very helpful and the questionnaire was distributed within four e-groups. The total number of members of these four groups was around two hundred.

8.5 Research sampling process

This section of chapter eight is devoted to discussing the sampling strategy for the quantitative study of this research. This section consists of seven subsections. It starts with a definition of the sampling process. This is followed by determining the research population, the unit of analysis and the sampling techniques. And then the justification for using judgemental sampling design in this research is presented. The section also presents the processes that have been followed to determining the quantitative study sample size, and the sample validations procurers.

8.5.1 Definition of the sampling process

“Sampling is the process of selecting a sufficient number of elements from the population so that by studying the sample, and understanding the prosperities or the characteristics of the sample subjects, we will be able to generalize the properties or characteristics to the population elements” (Saunders et al., 2007: 227). A sample is

known as a subset of the population (Sekaran, 1992) and is used to represent the study population. In some cases, it is impractical to survey the entire population, so it is necessary to extract a sample from it in order to answer the research question(s).

The respondents to the survey were considered a critical component in the research. A sample is described as a small group of people selected from the population. A sample can be representative of the population only if it has been chosen randomly, which means that each element of the population has the same chance that it will be in the sample (Sekaran, 1992). The random sampling method is one of the common sampling methods and is designed to guarantee random and equal representation across a population (Miller, 1991). It is usually used with survey-based researches (Saunders et al., 2007). Saunders et al. (2007), provided several scenarios in which a sample is needed rather than surveying the entire population. From these scenarios the following conclusions were reached: It would be impractical for the researcher to survey the whole population since both the budget and time were limited.

Malhotra and Birks (2003) recommended the following steps for the sampling process: definition of the population from which the sample is to be drawn, determination of the sampling frame, determination of the sampling techniques, determination of the sample size, execution of the sampling process and sample validations. Saunders et al. (2007) also outline the following four stages of determining probability sampling: identifying a suitable sampling frame, deciding on a suitable sample size, selecting the most appropriate sampling technique, selecting the sample size and checking that the sample is representative of the population.

8.5.2 Determining research population

A population can be described as group of elements or cases (Sekaran, 1992). On the other hand, the research population frame is defined as “*a listing of all the elements in the population from which the sample is to be drawn*” (Sekaran, 1992: 225). The

research population for this study consists of the consumers of financial services in Saudi Arabia.

8.5.3 Determining the research unit of analysis

Defining the unit of analysis is an important component of research design (Sekaran, 1992). It is important to select a unit of analysis before selecting cases, and this must be adequate to answer the research question(s) (Babbie, 2001).

In this study of the theory testing, data collection and analysis were conducted at the individual level. The requirement to adopt self-service technologies is usually taken by individual. Therefore, the unit of analysis of this research is consumers of financial services in Saudi Arabia.

Data was collected from Saudis who are 18 years old or above and had at least one bank account. The reason for choosing the age of 18 is that banking regulation in Saudi Arabia does not allow anyone who is younger than 18 years to open a bank account. Moreover, people usually join the workforce at 18 years old and above and anyone younger is considered a minor. A person who is 18 years old or above might have his/her own income, which allows him or her to open a bank account.

8.5.4 Determining the sampling techniques

Sampling design can be divided to two categories: probability (random) sampling and non-probability (non-random) sampling. Probability sampling allows the researcher to make inferences about population characteristics. This type of sampling technique includes simple random, stratified, systematic and cluster sampling methods (Sekaran, 1992). Ross et al. (1996) has stated that the following criteria should be met in using the simple random sampling method: Equal opportunities for being selected should be maintained for every member of the research population. The selection of any member

of the research population must have no influence on the selection of any other member of the research population.

In case the researcher could not have an updated list of the research population because of time, cost or accessibility constraints, another sampling technique can be used. Non-probability sampling contrasts with probability sampling in that it does require an updated list (Krathwohl, 1997).

The non-probability sampling design includes judgemental and purposive, quota, snowball, sequential, and convenience sampling methods. Choosing between different non-probability sampling techniques depends on the research question(s) and the situation the researcher is in (Saunders et al., 2007). For the purposes of this study a purposive sampling design was used.

Sekaran (1992: 244) mentioned three factors that can help a researcher decide which sampling design may suit his/her research needs. These factors are: prior knowledge of the research. The main objectives of the study are generalisability, knowing more about a certain group, obtaining quick information, etc. Cost considerations.

Because complicated procedures, high cost, and limited time made it impossible for the researcher to get an updated list of the research population, the researcher decided to adopt the non-probability sampling design.

For the purposes of quantitative section of this study, purposive sampling is used. According to Sekaran (1992: 235) purposive sampling sometimes become necessary if there is a need to contact specific types of people who can give only the required information. In the case of this study, information is needed in regard to the intention to adopt Internet-only banks. Therefore, there is a need to contact people who already have a bank account to understand how they perceive the e-banking experience in general and

if they are willing to move further in their e-banking experience by adopting emerging e-banking innovations such as Internet-only banks.

8.5.5 Justification of the use of judgemental sampling design in this research

Even though the researcher values the advantages of using probability-sampling technique for the purpose of data collection in this thesis, a non-probability sampling design was adopted. Because of the unavailability of a population frame, probability sampling cannot be used.

In order for the researcher to use the probability sampling design, the research population frame should be determined. Since there was no available sampling frame for the research, there was a need to compile a list. One of the alternatives to the list was the use of the phone directory, but this alternative was eliminated because telephone directory list subscribers who have a phone landline, *“therefore, the survey will be biased toward households who have a landline telephone”*. Other shortcomings of using the telephone directory are that some of the subscribers may choose not to include their phone numbers in the directory (Saunders et al., 2007: 208). Moreover, a number of banking services customers are young and do not have their own landline number and use mobile phones instead. For these reasons the use of phone directory as a sampling frame was excluded.

The other option for getting the sampling frame and get an updated list was through contacting the retail banks working in Saudi Arabia and getting a complete list of their clients. However, the regulation of Saudi banks did not allow access to their clients' information without the permission from either the Saudi Ministry of Interior or Saudi Arabian Monetary Agency (SAMA). Getting permission from SAMA involves several procedures. To begin, the researcher should have an official request from the university where the researcher works or studies to help him/her in obtaining the required data. Second, because the researcher in this case is studying abroad, she needed

another official request from her sponsor in Saudi Arabia asking SAMA to cooperate with her. If the researcher has the permission to get access to the bank's client general information (e.g., name, address, or phone number) SAMA will give her a letter directed to retail banks' headquarters asking them to cooperate with her. This step in the official process will be followed by another letter from the banks' representatives at headquarters asking bank branch managers to cooperate with the researcher. This process appears to be long, complicated, and time consuming. The researcher has limited time and resources to complete data collection, so waiting to fulfil the previously illustrated procedures would have delayed the work.

In cases where the researcher is more interested in exploring the situation, convenience sampling is more useful. In this case the researcher may not be able to generalise because "*In non-probability sampling designs, the elements in the population do not have any probability attached to their being chosen as sample subjects*", but he/she will be able to get an understanding of the situation (Sekaran, 1992: 235). On the other hand, Saunders et al. (2007) state that even though non-probability sampling design will not allow generalisability of research results with a research population, it still make it possible to generalise the theory.

Convenience sampling design enables the researcher to select a number of cases the size of which depends mainly on participants' availability and ease of data collection. According to Krathwohl (1997), this type of sampling method is the most commonly used. However, convenience sampling designs are considered the lowest in representing the research population (Sekaran, 1992). On other hand, judgemental and purposive sampling allows the researcher to judge which characteristics of the target population should be included in the sample (Saunders et al., 2007).

8.5.6 Determining the sample size

Sample size is one of the crucial decisions the researcher has to take, as the sample size is important for statistical inference. One of the important steps in planning statistical studies is deciding on the sample size (Lenth, 2001) and this is important because of its economic consequences. Over-sized samples mean that the resources should be used carefully while under-sized samples are considered a waste of resources and as not having useful results (Lenth, 2001; Bartlett et al., 2001).

Rosce (1975), cited by (Sekaran, 1992: 253), proposed the following rules for determining sample size,

Sample sizes of more than 30 and less than 500 are appropriate for most research. Where samples are to be broken up into subsamples, a minimum sample size of 30 for each category is necessary. In multivariate research, the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study.

Sekaran (1992: 253) also summarised the factors that determine the sample size as involving: 1) the confidence level desired. 2) the variability in the research population. 3) the amount of risk allowed or precision desired. 4) cost and time constraints. 5) the size of the population.

In regard to determining the non-random sample size, Saunders et al. (2007: 226) stated that the decision to have a sample size with the non-random sampling technique can be “*ambiguous*” and as “*there are no rules, sample size depend on your research question(s) and objectives*”. In non-probability sampling validity depends on the success of data collection and analysis skills rather than on sample size. The research in hand uses purposive sampling design which is considered to a non-random sampling technique. However, the research utilises Partial Least Squares (PLS) as the analysis tool. Since this research is utilising structural equation modelling as the data analysis

method for its quantitative section, the researcher follows the rules for determining the sample size proposed by structural equation modelling (SEM).

To use multiple regression analysis, the ratio of observations to independent variables should not fall below five. If this minimum number requirement is not followed, there is a risk of over fitting, “... *making the results too specific to the sample, thus lacking generalisability*” (Hair et al., 2006), “*SEM is a large sample technique. A popular rule of thumb is to have at least 10 observations per variable. If a large model is tested with a sample size of 100, estimation problems are likely, and additionally test statistics have extremely low power*” (Bentler & Savalei, 2010: 15).

According to Von der Heidt and Scott (2007) a small sample size resulting from a low response rate, tends to be the norm. Nevertheless, a small sample size is not recommended as it may contain “*only cases at one extreme characteristic of the population. Only with a larger sample is the chance factor minimized*” (Krathwohl, 1997: 162).

One of the advantages of the PLS is that it accepts a small sample size. Kahai and Cooper (2003) refer to the required small sample size as one of the advantages of the PLS. However, the small sample size for the PLS is not without restrictions, as researchers refer to the 10 times rule of thumb in determining the sample size for PLS analysis. Researchers indicate that the size of the sample needed for PLS analysis should be 10 times that of the most complex relationships within the research model (Goodhue et al., 2006). In addition, Chin (1998) indicated that the sample size for the PLS analysis should be ten times larger than the number of independent variables affecting the dependent variable. In the other hand, Goodhue et al. (2006: 9) argue that the “*10 times rule does not take into account effect size, reliability, number of indicators, or other factors which are in one fashion or another are known to affect power. It is therefore a misleading guide for acceptable sample size*”.

Goodhue et al. (2006), argue that statistical significance should be the important issue in determining the research sample size. According to Goodhue et al. (2006), most IS researchers who have used the PLS attribute their choice of that method to its flexibility in regard to sample size. Goodhue et al. (2006), stress the importance of the power effect, as they believe that this effect decreases when the sample size is small. *“The power of a statistical test is reduced by (among other things) small sample size, a weak underlying relationship, or measures that are clouded by error (low reliability)”* (Goodhue et al., 2006: 5). Despite this, Goodhue et al. (2006: 10) criticize the PLS’ inability to generate adequate effect power. They still believe that PLS is an *“a convenient and powerful technique that is appropriate for many research situations, such as complex research models with sample sizes that would be too small for covariance-based SEM techniques”*.

Although sample size is generally assumed to be less important in PLS modelling (Chen, 1998), in using PLS modelling with complex models it is important to use power analysis to validate the implications of sample size (Akter et al., 2011). Adequate sample size is important to improve the estimates of the overall model (Saunders et al., 2007). *“Adequate sample size is necessary to achieve power in PLS based estimates in order to ensure rigor in complex modeling”* (Akter et al., 2011: 2).

According to Cohen (1988), three parameters are important for power analysis: the significance level of the test, the sample size of the study and the effect size (ES) of the population.

Instead of relying on the 10 times rule of thumb, Akter et al. (2011) indicate that an adequate sample size can be assessed by conducting a power analysis on the portion of the model with the largest number of predictors. According to the authors, an adequate sample size can be determined by the use of power charts, power tables, or through a computer program such as G*Power 3.1.2 (Faul et al., 2009). Cohen (1988) suggest that power should be higher than 0.8. In business research the power of a

statistical test should be at least 0.80 (Hair. et al., 2006: 10–13). Thus, “*high power (> 0.80) indicates that there is high degree of probability of producing significant results when the relationship is truly significant*” (Akter et al., 2011).

For the purposes of this research, both the 10 times rule of thumb and the G*Power 3.1.2 programme with 0.85 power were used to determine the research sample size. By following the 10 times rule of thumb the adequate sample size should be a minimum of 120 responses. Moreover, by using the G*power for calculating the adequate sample size for this research, with two tailed t-tests, 0.10 effect size, $\alpha = 0.5$, and 22 predictors. The adequate sample size is 263 (for further information, see appendix D-2). The actual sample size for this research is 653. This far exceeds the adequate sample size recommended for the above procedures.

8.5.7 Sample validations procurers

The generalisability of the results of this research to the entire Muslim IB user population is limited because a non-probability sampling technique is used in this research. The characteristics of the sample here may differ from the characteristics of the population the research is aiming to investigate. The characteristics of the sample not only may differ from Muslim population characteristics but they may differ from the characteristics of the population which the sample has been drawn from; that is, the Saudi Arabian population.

The producers confirm that the characteristics of the sample represent the characteristics of the population that it has been drawn from (the Saudi Arabia population), in order to compare the sample characteristics with those of the Saudi Arabian population. In section 9.3.3 there is a discussion of the sample characteristics, compared with the Saudi population characteristics. The results of the comparison indicated that the sample characteristics satisfied the criteria for the target population, as reported in previous research (Loch et al., 2003).

Although the random sampling design was not used here, the withdrawn sample characteristics satisfied the criteria for the target population. Moreover, unlike most of previous studies in the field that utilised students (Al Gahtani & King, 1999; Alsajjan, 2009) or professional people (Al Gahtani, 2008; Al Gahtani, 2003), this study targeted different categories within the study population. As there was a need for variety of participants in the sample (Malhotra & Birks, 2003), the participants in this study were drawn from different cities in Saudi Arabia.

Unlike other studies in the field of online banking acceptance that mainly depend on student participants, the samples in this research consist of participants from different professions, age groups, and income and education levels, as indicated in table 9-3 in section 9.3.3. This suggests that the sample has share many similarities with the overall population it has been drawn from.

Unlike most of the technology acceptance studies which have been conducted in Saudi Arabia (Al Gahtani, 2003a; Al Mogbil, 2005; Al Somali et al., 2009), this researcher drew the research sample not only from the main cities such as: Riyadh, Jeddah, Kuhbar and Madenah but also from both large and small towns and even from villages. The scope of this study concentrates on investigating the influence of religiosity and values along with other personal and social factors in consumers' Internet only banks acceptance, and previous studies show that there are differences in both people's religiosity and adherence to values according to their place of residence; even if they are living within the same country (Krauss et al., 2006). Therefore, the researcher values the importance of drawing the study sample from different areas in Saudi Arabia. The areas chosen were both urban and rural. Thus, research has been able to establish differences in values and religiosity scores within the research sample.

8.6 Summary

This chapter has been dedicated to research variable definition, research hypothesis development, research quantitative study instrument development, research sample design and research quantitative data collection.

The chapter began by discussing variables used in the research model. All these variables of this research were taken from the literature. The first section of this chapter gave a definition of each variable and its measurement scale. The research hypotheses development was then elaborated on and the steps involved in designing the quantitative research study questionnaire were explained. The questionnaire development, pilot testing, and distribution processes were also discussed. The decision of the scales to use in the questionnaire was based on a comprehensive review of the literature.

Later in the chapter, the research sample design, including the sampling techniques used in this research, which is a convenient and judgemental non-probability sampling technique, and the reasons for using the non-probability method were discussed, along with a description of the sample size decision-making process.

The next chapter, chapter 9, will provide detailed analysis of data with their interpretation as research findings which will be discussed with regard to various hypotheses proposed.

Chapter nine: Model testing

The empirical setting, Data analysis, model testing and results

9.1 Introduction

Chapter eight of this thesis discussed the research variable definitions. It also concentrated on discussing the variables operationalisation, hypothesis development, questionnaire development and sample design.

This chapter aims to elaborate on the research model testing. There is a discussion of the design, setting, and assessment of research model and of the hypothesis testing. The chapter starts with description of the quantitative research with relation to the process of data scanning. Some measurement and structure model assessment follows. An analysis of both the measurement and structural model of the partial least square (PLS) follows. The measurement scales of this study were assessed using both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) methods. The outer structural model is also assessed using R^2 , f^2 , and q . This chapter also provides an in-depth analysis of the hypothesis testing process, along with an analysis of the open-ended questionnaire questions. The research hypotheses are linked to the findings of the quantitative and qualitative studies and with the findings of previous literature in the field.

9.2 Hypothetical research model

The process of designing the hypothetical model in this research is discussed in chapter 8. As also discussed before (see section 8.3), there is not sufficient literature linking Internet-only banks acceptance behaviour to religiosity and values, especially in the Islamic context. Therefore, the development of the hypothesis in relation to the influence of religiosity and technology acceptance was based mainly on a handful of studies that

discussed the relationships between religiosity and information technology (IT) acceptance. Figure (9-1) represents the reversed model figure (7.1).

Figure 9-1 shows dependent and independent variables and shows that the model contains 14 endogenous latent variables and 13 exogenous latent variables. In figure 9-1 the variables are presented in squares while the hypotheses are presented as paths.

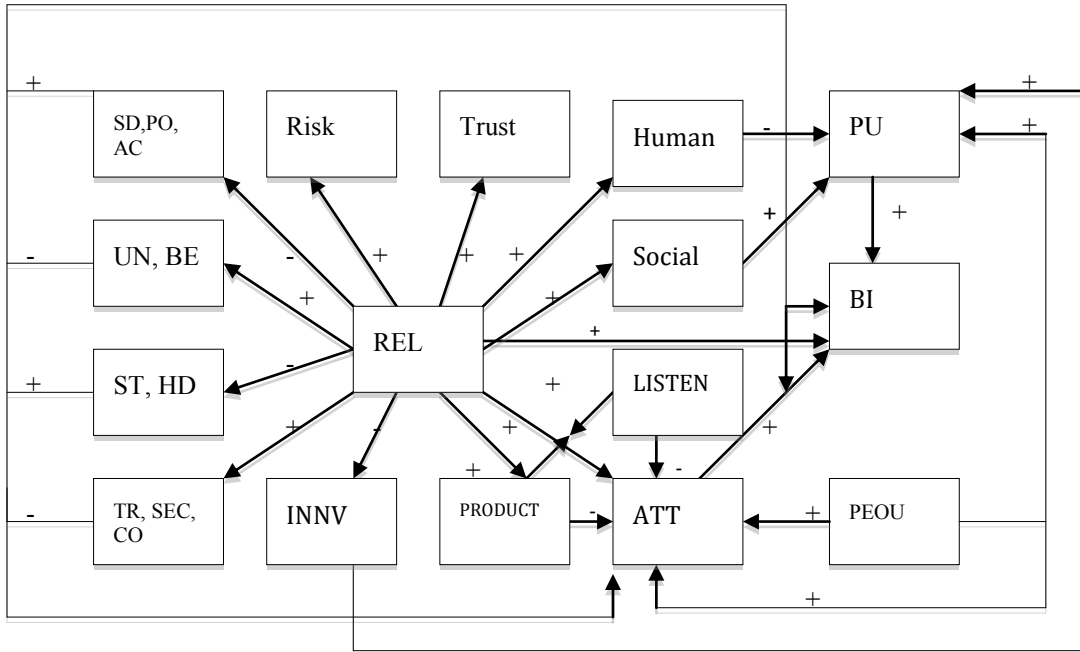
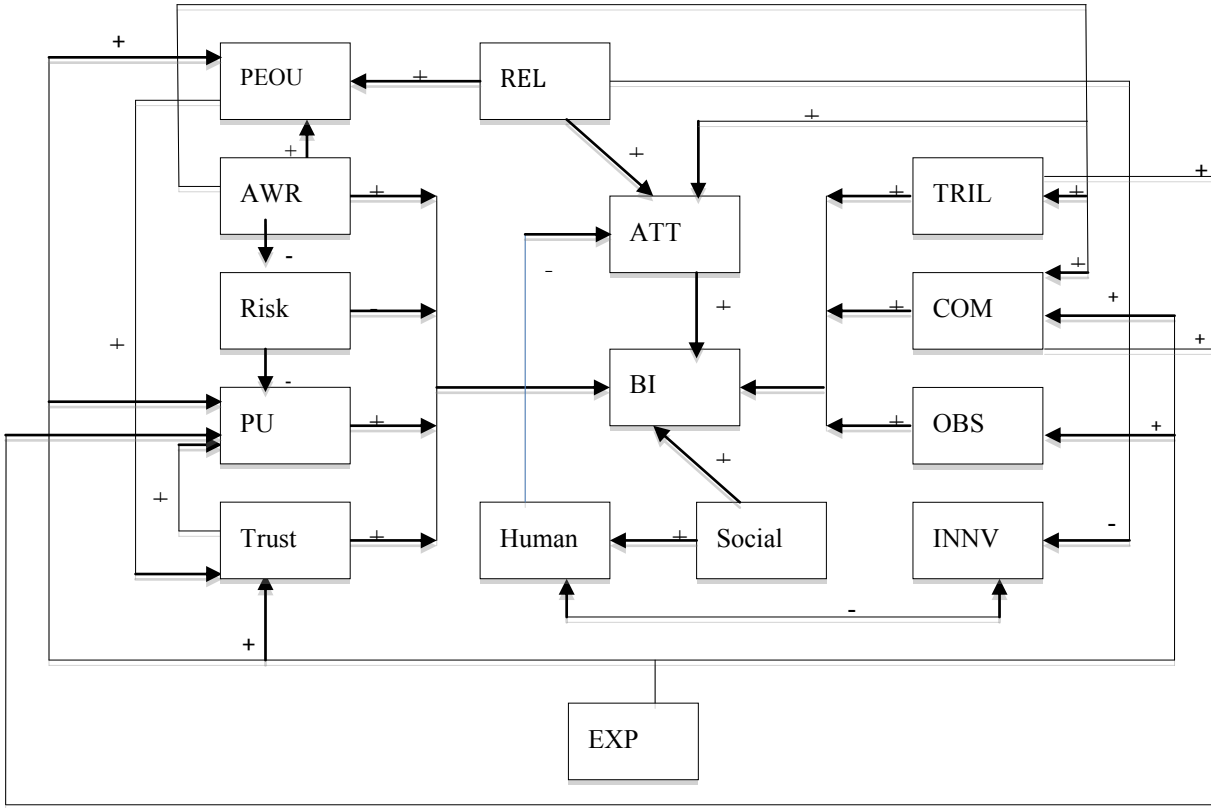


Figure (9-1). Proposed research model

As discussed in chapter 8, section 8.1 the model can be described as complex.

The relationships between variables are interrelated, which may create a mediating effect on the relationships between variables. The relationships between variables in figure 9-1 show that religiosity (REL), social influence (SOCIAL), perceived trust (TRUST), perceived risk (RISK), compatibility (COM), observability (OBS), trialability (TRIAL), awareness (AWR), perceived usefulness (PU), attitude (ATT) have significant relationships with behavioural intention (BI). Religiosity, perceived trust, perceived risk, PEOU, the need for human interaction (HUMAN), innovativeness (INNV), willingness to accept religious leaders' advice (LISTEN) and the importance they place on obtaining Islamic banking services (PRODUCT) are all examined with regard to their relationships to attitudes.

In addition, the model hypothesises that awareness has a significant relationship with compatibility, perceived ease of use, trialability, perceived usefulness (PU), perceived risk, attitude, and behavioural intention. Moreover, the proposed model hypothesises that previous technological experience has a significant relationship with perceived ease of use, perceived usefulness, and perceived trust. The proposed model also tests the TAM hypotheses, which refers to the significant relationship between attitude and perceived usefulness with regard to behavioural intention. TAM also indicates a significant direct relationship between perceived ease of use, perceived usefulness and attitudes. It also hypothesises the existence of a significant relationship between perceived ease of use and perceived usefulness. The relationships between constructions in the TAM model (perceived ease of use, perceived usefulness, attitude and behavioural intention) are expected to be sensitive to religiosity level, with the lower the religiosity, the stronger the relationship.

The study model also aims to test the influence of perceived risk, perceived usefulness and of perceived ease of use on perceived trust. On the other hand, the study model concentrates on the relationship between personal religiosity and perceived risk,

perceived trust, perceived ease of use, innovativeness, the need for human interaction, human values, willingness to accept religious leaders' advice and the importance they place on obtaining Islamic banking services through Internet-only banks. In addition, the proposed model hypothesises both moderating and mediating effects of certain variables. The relationship between attitudes and usage intention is hypothesised to be moderated by human values. That willingness to accept religious leaders' advice and the importance they place on obtaining Islamic banking services through Internet-only banks moderates the relationship between personal religiosity and attitudes to Internet-only banks. The model also suggests that there is a mediating effect of perceived risk, perceived trust, and social influence on the relationship between personal religiosity and behavioural intention, and also a mediating effect of perceived ease of use on the relationship between personal religiosity and attitude. The research constructs are listed in table 8-5 in chapter 8, section 8.4.2, along with the measurement scale that was used for each of these constructs.

9.2.1 Research variables

The model has 27 mean constructs. These variables are as follows. The dependent variables include behavioural intention, attitude, perceived ease of use, perceived usefulness, religiosity, social influence, innovativeness, perceived trust, perceived risk, awareness, and human values (achievement (AC), power (PO), stimulation (ST), hedonism (HD), self-direction (SD), security (SEC), conformity (CO), traditionalism (TR), universalism (UN), and benevolence (BE)), Muslims' willingness to accept religious scholars advice and the importance of obtaining Islamic banking services through Internet-only banks. The independent variables include religiosity, observability, compatibility, trialability, and previous technological experience (EXP). There are also variables that play a dual role. While perceived ease of use, perceived usefulness, perceived risk, perceived trust, awareness, innovativeness and human values are dependent variables, they also act as independent variables that influence behavioural intention. On the other hand, religiosity is hypothesised to affect the

strength of the relationship between the TAM model constructs (perceived ease of use, perceived usefulness, attitude and behavioural intention). It is hypothesised that the relationships between the TAM constructs are stronger for participants with low religiosity.

9.3 Data analysis

The statistical analysis of data in this research is accomplished in the following sequence: first, data analysis begins with descriptive analysis; second, discussion of the data screening process that has been followed is presented; third, SEM analysis was conducted with SmartPLS; and finally, a qualitative analysis of the questionnaire's open-ended questions was conducted. Figure 9-2 illustrates the sequence of the data analysis along with the objective of each phase of the data analysis.

Statistical process:

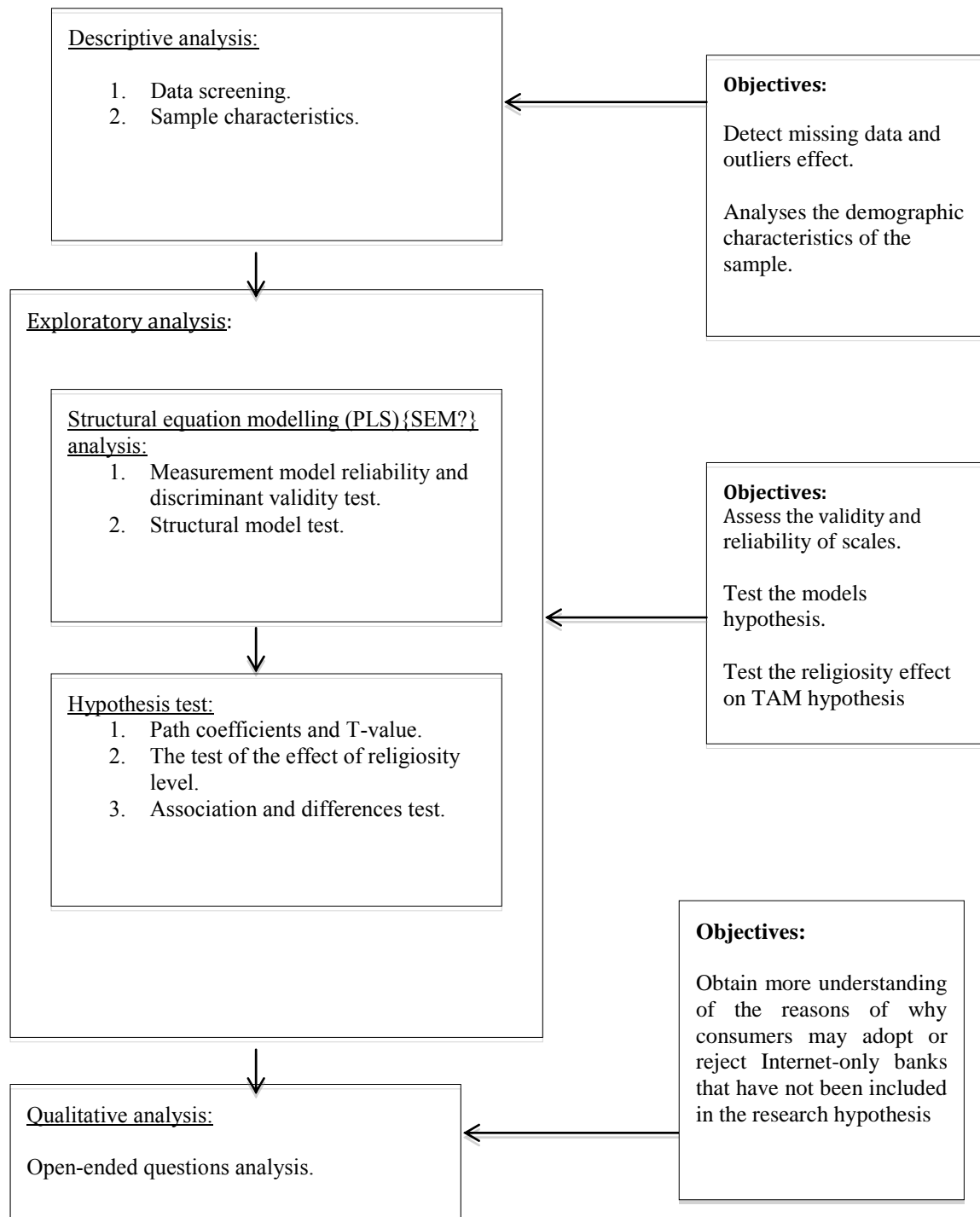


Figure (9-2): Research statistical process

9.3.1 Data screening

To enhance the quality of quantitative data analysis, research instrument items were examined with a SPSS statistical package prior to analysis. To prepare for data analysis the paper-based questionnaires were screened and coded before the data entry process started. In order to facilitate data entry each questionnaire given a number, and each item in the questionnaire was given a code. Data was then entered into SPSS19. Meanwhile, online questionnaire results were downloaded from the 'Qualtrics' website as a SPSS.sav file. The coding of the two SPSS files (paper-based and online downloaded) were then compared and combined. Both data files were then merged into one SPSS data file. The scanning of data for missing data, outliers, and normality was then conducted. The finding and treatment of these issues are presented in the following subsections.

9.3.1.1 Missing data and treatment

Survey questionnaire is used on most of social science and marketing researches. One of the common problems in quantitative data analysis is the problem of missing data (Tabachnick & Fidell, 2000). Missing data can cause many problems in statistical analysis procedures (Corderio et al., 2010). According to Hair et al. (2006) missing data is considered as problematic within multivariate analysis. Hair et al. (2006: 62–70) illustrate four steps process to diagnosis missing data patterns, those are: determine type of missing data; determine the extent of missing data, diagnosing the randomness of missing data process, selecting an imputation method. Cohen and Cohen (1983) suggested that missing data 5 percent or even 10 percent in specific item is not large enough.

In the current study, the researcher used SPSS V.19 missing value analysis (MVA) procedure. The results of expectation maximisation (EM) technique revealed that Little's MCAR test was insignificant at each item level. The missing data did not

exist at the item level in the current study. Therefore, there was no need to conduct any imputation method.

9.3.1.2 Outliers examination

An outlier is defined as “*a case with such an extreme value on one variable or such a strange combination of scores on two or more variables*” (Tabachnick & Fidell, 2006: 72). Outliers could occur in data sets for four reasons: incorrect entry, failure to specify codes for missing values which might be treated as real data, entering an observation which is not part of the population from which sample is extracted, and including observation from population but the distribution for the variable in the population has extreme value than the normal distribution (Tabachnick & Fidell, 2006: 73). Hair et al. (2006: 75) suggested that within univariate outliers a case is an outlier if 1) the standard score for small sample size is +/- 2.5 or beyond, while for large sample size standard score can be accepted up to 4, 2) a value more than +/- 3.0 standard deviations away from the mean is regarded as an outlier. In this study, SPSS function of descriptive statistic was used to detect outliers on the univariate level. The data values of each observation were converted to a standard score also known as Z-score (Hair et al., 2006). The results indicated that the data set contains no outliers on the univariate level.

The Mahalanabis D2 measure was used to detect multivariate outliers. According to Hair et al. (2006: 75) if case D^2/df exceeded the value 2.5 in a small sample and 3 or 4 in a large sample, it is considered a possible outlier. To detect if a variable is a multivariate outlier, one must know the critical value for which the Mahalanabis distance must be greater than, using the criterion of $\alpha = 0.001$ with 117 df. According to Tabachnick and Fidell (2007: 99) “*Mahalanabis is evaluated as χ^2 with degree of freedom equal to the number of variables*”, therefore, the critical χ^2 in this study is 149.449, and all Mahalanabis scores must be examined to see if they exceed the critical value of $\chi^2 = 149.449$. The regression method was applied to calculate the Mahalanabis D2 value. Table (9-1) indicated that there were 16 observations of extreme

outliers in sample of 669. To obtain high quality data, the researcher decided to delete the observations having outliers before proceeding to the next stage of data scanning.

Table (9-1). Univariate Outliers.		
Variable	Case of outlier	Z value $>_{-}+3.0$
Perceived trust	16	3.592
	35	4.371
	67	4.39
	132	4.36
Human interaction	No case	---
Social influence	18	3.781
	57	3.823
PEOU	No case	---
PU	380	3.6081
Awareness	No case	---
Triability	131	4.323
	165	4.951
Observability	No case	---
Compatibility	No case	---
Previous technological experience	2	3.822
	103	3.845
Attitude	29	4.342
	57	3.223
Perceived Risk	No case	---
Innovativeness	56	3.712
	66	3.211
Religiosity	46	3.696
Human values	No case	---
Behavioural intention	No case	---
Listen	No case	---

9.3.2 Normality, homoscedasticity and multicollinearity

This section concentrates in examining normality, the homoscedasticity and multicollinearity of the data gathered in the quantitative study.

9.3.2.1 Normality

One of the fundamental assumptions of multivariate analysis is normality (Hair et al., 2006). According to Hair et al. (2006: 79) “*if the variation from the normal distribution is sufficiently large, all resulting statistical are invalid, because normality is required to use the F and T statistics*”. Assessing the severity of non-normality is based on two assumptions: 1) the shape of the offending distribution and 2) the sample size (Hair et al., 2006: 80). Normality can be examined through either graphical or statistical methods (Tabachnick & Fidell, 2000). The normality probability plot (P-P plot of the regression standardised residual) is employed to assess multivariate normality. In addition, one of the statistical methods used to identify the shape of distribution is skewness and kurtosis (Hair et al., 2006). Skewness portrays the symmetry of distribution and kurtosis refers to its ‘peakedness’ (Hair et al., 2006). For the normal distribution the recommended value of skewness is zero (Curran et al., 1996). The kurtosis, where the distribution is taller or more peaked than normal, is termed ‘leptokurtic’, and the distribution is termed ‘platykurtick’ (Hair et al., 2006). Kurtosis values less than +/- 1 are considered negligible, and values from +/- 1 to +/- 10 are indication of severe non-normality (Holmes-Smith et al., 2004). According to Tabachnick & Fidell (2000), the standard score value departs from normality if it is greater than $z = +3.29$ ($p < .001$, two-tailed test). The standard score value is calculated through dividing the skewness statistic and kurtosis statistic by its standard error.

Table (9-2) indicates that in the current study all the variables were within the normal range of skewness and kurtosis. However, table (9-2) indicates that the skewness and kurtosis scores are both positive and negative values. According to Pallant (2007) positive or negative skewness and kurtosis do not represent any problem since they are

within normal range. In general, the descriptive analysis revealed that the data skewness and kurtosis were within the acceptable value of +/- 3.29; hence, do not call for remedy by data transformation (Hair et al., 2006: 82).

Table (9-2a). Skewness and kurtosis test of normality						
	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Z value	Statistic	Z value
EXP1	4.71	2.08	-0.31	-3.27	-0.62	-3.24
EXP2	3.43	1.99	0.24	2.48	-0.54	-2.84
EXP3	4.85	1.84	-0.31	-3.26	-0.53	-2.78
AWR1	4.00	2.07	-0.11	-1.11	-0.40	-2.11
AWR2	4.04	1.92	-0.10	-1.01	-0.54	-2.84
AWR3	4.18	1.93	-0.19	-2.03	-0.60	-3.16
AWR4	3.35	2.08	0.30	3.20	-0.23	-1.21
PEOU1	4.85	1.96	-0.22	-2.32	-0.49	-2.56
PEOU2	4.97	1.76	-0.24	-2.47	-0.31	-1.65
PEOU3	5.10	1.68	-0.24	-2.47	0.15	0.77
PEOU4	4.94	1.87	-0.30	-3.17	-0.52	-2.75
PU1	5.02	2.11	-0.28	-2.92	-0.54	-2.84
PU2	4.94	1.82	-0.28	-2.98	-0.49	-2.56
PU3	4.78	1.87	-0.22	-2.27	-0.60	-3.14
PU4	4.93	1.86	-0.31	-3.26	-0.59	-3.12
PU5	5.28	1.85	-0.15	-1.57	0.12	0.64
PU6	5.20	1.84	-0.26	-2.69	-0.06	-0.30
BI1	4.58	2.01	-0.30	-3.14	-0.50	-2.61
BI2	4.58	1.84	-0.30	-3.16	-0.16	-0.86
BI3	4.82	1.81	-0.24	-2.49	-0.39	-2.05
ATT1	4.99	2.01	-0.27	-2.83	-0.43	-2.27
ATT2	5.01	1.82	0.31	3.26	-0.26	-1.36
ATT3	4.31	1.94	-0.29	-3.05	-0.20	-1.03
ATT4	3.38	2.09	0.27	2.82	-0.23	-1.19
INNV1	4.75	2.05	-0.30	-3.19	-0.68	-3.58
INNV2	4.69	1.83	-0.26	-2.73	-0.32	-1.68
INNV3	4.77	1.82	-0.21	-2.16	-0.50	-2.63
INNV4	4.92	1.79	-0.31	-3.23	-0.45	-2.36
INNV5	5.05	1.79	-0.10	-1.06	-0.11	-0.58
INNV6	5.05	1.75	-0.27	-2.86	-0.13	-0.69
INNV7	5.01	1.80	-0.31	-3.27	-0.27	-1.40
RISK1	4.62	2.12	-0.19	-2.02	-0.10	-0.54
RISK2	4.73	1.96	-0.30	-3.20	-0.29	-1.51
RISK3	4.41	2.05	-0.22	-2.34	-0.30	-1.57
RISK4	4.64	1.95	-0.12	-1.21	-0.49	-2.58

Table (9-2b). Skewness and kurtosis test of normality

	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Z value	Statistic	Z value
RISK5	4.66	2.03	-0.31	-3.26	-0.02	-0.11
COM1	4.61	2.05	-0.30	-3.20	-0.19	-1.01
COM2	4.86	1.85	-0.21	-2.19	-0.51	-2.66
COM3	4.82	1.87	-0.21	-2.17	-0.57	-2.99
OBS1	4.95	1.94	-0.19	-1.98	-0.34	-1.77
OBS2	5.06	1.76	-0.05	-0.47	-0.05	-0.26
OBS3	4.69	1.88	-0.24	-2.51	-0.23	-1.21
TRIL1	4.32	2.17	-0.30	-3.20	-0.38	-2.00
TRIL2	4.71	1.88	-0.26	-2.78	-0.14	-0.74
TRIL3	4.85	1.85	-0.11	-1.15	-0.57	-2.99
PRODUCT	2.42	0.72	-0.11	-1.18	-0.61	-3.18
REL1	3.70	1.34	-0.27	-2.83	-0.53	-2.81
REL2	4.06	1.18	-0.25	-2.64	0.38	2.01
REL3	4.01	1.16	-0.19	-2.04	0.55	2.91
REL4	4.01	1.12	-0.12	-1.29	0.55	2.88
REL5	4.09	1.14	-0.29	-3.08	0.62	3.25
REL6	3.94	1.15	-0.29	-3.03	0.23	1.21
REL7	3.71	1.20	-0.24	-2.47	-0.34	-1.77
REL8	3.88	1.24	-0.15	-1.60	-0.08	-0.44
REL9	4.01	1.15	-0.18	-1.86	0.60	3.16
REL10	4.04	1.13	-0.23	-2.41	0.61	3.19
REL11	3.83	1.11	-0.25	-2.63	0.00	-0.01
REL12	3.97	1.09	-0.08	-0.88	0.60	3.14
REL13	3.71	1.17	-0.17	-1.75	-0.17	-0.87
REL14	4.13	1.10	-0.25	-2.63	0.41	2.15
REL15	3.94	1.16	-0.29	-3.02	-0.12	-0.65
REL16	4.05	1.09	-0.23	-2.38	0.44	2.32
REL17	4.12	1.08	-0.25	-2.59	0.29	1.53
REL18	4.01	1.07	-1.10	-0.19	0.60	3.17
REL19	4.12	1.07	-0.29	-3.02	0.17	0.89
REL20	4.14	1.03	-0.31	-3.22	0.60	3.13
REL21	4.25	1.08	-0.31	-3.25	0.54	2.86
REL22	4.16	1.08	-0.31	-3.27	0.10	0.53
REL23	4.12	1.08	-0.35	-3.26	0.37	1.93
REL24	4.08	1.14	-0.21	-2.20	0.17	0.89
REL25	3.64	1.37	-0.26	-2.75	-0.16	-0.86
REL26	4.06	1.21	-0.25	-2.62	0.58	3.04
REL27	3.99	1.07	-0.11	-1.14	0.30	1.60
REL28	3.94	1.12	-0.11	-1.12	0.07	0.37
REL29	3.99	1.12	-0.25	-2.61	0.01	0.07
REL30	4.16	1.06	-0.31	-3.24	0.39	2.03
REL31	4.17	1.12	-0.30	-3.16	0.11	0.58

Table (9-2c). Skewness and kurtosis test of normality						
	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Z value	Statistic	Z value
REL32	4.09	1.15	-0.30	-3.20	0.01	0.03
REL33	4.16	1.11	-0.21	-2.16	0.31	1.61
LISTEN1	2.38	1.36	0.12	1.26	-0.10	-0.52
LISTEN2	2.47	1.40	0.30	3.15	-0.09	-0.48
HUMAN1	3.75	1.98	0.17	1.76	-0.16	-0.82
HUMAN2	3.92	1.93	0.22	2.35	-0.33	-1.75
HUMAN3	3.56	1.95	0.27	2.87	-0.08	-0.42
SOCIAL1	4.89	1.92	-0.15	-1.56	-0.34	-1.77
SOCIAL2	4.87	1.82	-0.24	-2.49	-0.56	-2.95
SOCIAL3	4.77	1.83	-0.26	-2.69	-0.57	-3.01
TRUST1	4.57	2.01	-0.21	-2.24	-0.09	-0.45
TRUST2	4.62	1.77	-0.16	-1.67	-0.14	-0.71
TRUST3	4.59	1.83	-0.31	-3.25	-0.21	-1.10
HV1SD	4.28	1.82	-0.22	-2.32	-0.14	-0.76
HV2PO	4.44	1.56	-0.30	-3.16	-0.59	-3.12
HV3UN	4.08	1.84	-0.26	-2.68	-0.24	-1.28
HV4AC	4.20	1.72	-0.31	-3.25	-0.04	-0.20
HV5SEC	4.09	1.75	-0.13	-1.34	-0.05	-0.28
HV6ST	4.25	1.63	-0.28	-2.91	-0.26	-1.35
HV7CO	4.20	1.74	-0.15	-1.55	-0.02	-0.09
HV8UN	4.20	1.71	-0.21	-2.16	-0.08	-0.41
HV9TR	4.18	1.77	-0.14	-1.43	-0.04	-0.23
HV10HD	4.20	1.68	-0.23	-2.45	-0.19	-1.01
HV11SD	4.17	1.77	-0.13	-1.39	-0.07	-0.37
HV12BE	4.19	1.75	-0.28	-2.93	-0.16	-0.86
HV13AC	4.09	1.79	-0.18	-1.87	-0.14	-0.72
HV14SEC	4.00	1.79	-0.30	-3.15	-0.26	-1.35
HV15ST	4.25	1.70	-0.19	-2.02	-0.02	-0.10
HV16CO	4.17	1.71	-0.27	-2.86	-0.10	-0.52
HV17PO	4.21	1.78	-0.11	-1.12	-0.42	-2.22
HV18BE	4.13	1.71	-0.31	-3.26	-0.04	-0.23
HV19UN	4.15	1.76	-0.18	-1.93	-0.50	-2.61
HV20TR	4.25	1.66	-0.07	-0.69	-0.30	-1.59
HV21HD	4.24	1.73	-0.11	-1.14	-0.21	-1.10
Valid N (listwise)						
SE for skewness = 0.10, SE for kurtosis = 0.19						

To assess normality at the multivariate level the normal P-P plot of the regression standardised residual was used. As figure (9-3) indicated the P-P plot for behavioural intention look normal.

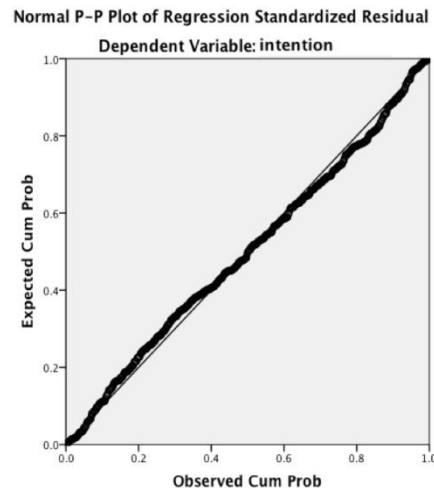


Figure (9-3) Multivariate normal P-P plot of regression standardised residual

9.3.2.2 Homoscedasticity

Homoscedasticity is the assumption of normality related with the supposition that the dependent variable(s) displaying an equal variance across the number of independent variable(s) (Hair et al., 2006: 83). The most common method of assessing homoscedasticity is Levene's test of equal variance (Hair et al., 2006; Pallant, 2007). In the current study, Levene's test for the metric variables was computed across a non-metric variable (gender). Table (9-3) indicates that all the obtained scores were higher than the minimum significant value i.e. $p < 0.05$, which suggested that variance for all variables was equal within the group of male and female and had not violated the assumption of homoscedasticity of variance.

Table (9-3a). Test of homogeneity of variances				
	Levene Statistic	Df1	df2	Sig
EXP1	0.236	1	652	0.628
EXP2	0.341	1	652	0.56
EXP3	0.29	1	652	0.59
AWR1	0.42	1	652	0.517
AWR2	2.185	1	652	0.14
AWR3	2.101	1	652	0.148
AWR4	0.627	1	652	0.429
PEOU1	0.129	1	652	0.72
PEOU2	0.137	1	652	0.712
PEOU3	0.025	1	652	0.875
PEOU4	0.19	1	652	0.663
PU1	0.47	1	652	0.493
PU2	2.596	1	652	0.108
PU3	1.993	1	652	0.159
PU4	1.778	1	652	0.131
PU5	0.878	1	652	0.477
PU6	1.164	1	652	0.281
BI1	1.782	1	652	0.182
BI2	0.421	1	652	0.517
BI3	0.216	1	652	0.642
ATT1	0.016	1	652	0.898
ATT2	1.823	1	652	0.177
ATT3	0.251	1	652	0.616
ATT4	0.911	1	652	0.34
INNV1	0.019	1	652	0.889
INNV2	2.034	1	652	0.154
INNV3	2.117	1	652	0.146
INNV4	1.458	1	652	0.213
INNV5	1.487	1	652	0.223
INNV6	1.302	1	652	0.268
INNV7	1.224	1	652	0.269
RISK1	0.49	1	652	0.743
RISK2	0.01	1	652	0.921
RISK3	0.99	1	652	0.32
RISK4	2.315	1	652	0.129
RISK5	0.693	1	652	0.597
COM1	1.018	1	652	0.313
COM2	0.694	1	652	0.405
COM3	2.014	1	652	0.156
OBS1	0.262	1	652	0.609
OBS2	1.219	1	652	0.27
OBS3	0.787	1	652	0.375
TRIL1	0.195	1	652	0.659
TRIL2	1.335	1	652	0.248
TRIL3	0.066	1	652	0.797

Table (9-3b). Test of homogeneity of variances				
	Levene Statistic	Df1	df2	Sig
PRODUCT	1.741	1	652	0.187
REL1	0.01	1	652	0.921
REL2	0.621	1	652	0.431
REL3	1.403	1	652	0.237
REL4	1.147	1	652	0.284
REL5	0.029	1	652	0.866
REL6	1.699	1	652	0.193
REL7	1.112	1	652	0.35
REL8	1.44	1	652	0.231
REL9	0	1	652	0.998
REL10	0.355	1	652	0.551
REL11	0.652	1	652	0.42
REL12	1.68	1	652	0.195
REL13	2.293	1	652	0.13
REL14	0.412	1	652	0.521
REL15	0.129	1	652	0.72
REL16	0.332	1	652	0.565
REL17	0.142	1	652	0.707
REL18	2.389	1	652	0.123
REL19	0.455	1	652	0.5
REL20	0.259	1	652	0.611
REL21	0.61	1	652	0.655
REL22	0.161	1	652	0.689
REL23	0.217	1	652	0.642
REL24	2.46	1	652	0.117
REL25	2.044	1	652	0.153
REL26	0.749	1	652	0.559
REL27	1.276	1	652	0.259
REL28	2.134	1	652	0.145
REL29	2.531	1	652	0.112
REL30	0.131	1	652	0.717
REL31	0.999	1	652	0.318
REL32	1.928	1	652	0.165
REL33	0.206	1	652	0.935
LISTEN1	1.07	1	652	0.37
LISTEN2	17.629	1	652	0.385
HUMAN1	1.041	1	652	0.986
HUMAN2	0.621	1	652	0.431
HUMAN3	0.023	1	652	0.88
SOCIAL1	0.045	1	652	0.833
SOCIAL2	0.011	1	652	0.915
SOCIAL3	0	1	652	0.991
TRUST1	0.054	1	652	0.816
TRUST2	1.692	1	652	0.194
TRUST3	0.318	1	652	0.573

Table (9-3c). Test of homogeneity of variances				
	Levene Statistic	Df1	df2	Sig
HV1SD	0.001	1	652	0.976
HV2PO	0.76	1	652	0.551
HV3UN	1.062	1	652	0.303
HV4AC	0	1	652	0.994
HV5SEC	0.029	1	652	0.864
HV6ST	0.921	1	652	0.451
HV7CO	0.971	1	652	0.423
HV8UN	1.128	1	652	0.342
HV9TR	0.7	1	652	0.592
HV10HD	0.268	1	652	0.605
HV11SD	2.255	1	652	0.134
HV12BE	0.572	1	652	0.683
HV13AC	0.321	1	652	0.864
HV14SEC	0.707	1	652	0.587
HV15ST	1.644	1	652	0.2
HV16CO	4.371	1	652	0.037
HV17PO	0.921	1	652	0.451
HV18BE	1.449	1	652	0.216
HV19UN	1.147	1	652	0.333
HV20TR	1.778	1	652	0.132
HV21HD	1.994	1	652	0.158

9.3.2.3 Multicollinearity

Hair et al. (2006) describe multicollinearity as the problem related to the correlation matrix in which three or more independent variables are highly correlated to each other. The examination of multicollinearity is important as the presence of high multicollinearity results in lowering the unique variance explained by each independent variable and increases the shared prediction percentage (Hair et al., 2006: 186). Multicollinearity can be detected by different methods; one of which is calculating the variance inflation factor (VIF) and tolerance impact (Tabachnick & Fidell, 2000; Pallant, 2007). A large VIF (say, above 10) and lower tolerance (say, below 0.1) indicate the presence of multicollinearity (Pallant, 2007). In the current study, the VIF and tolerance effect were computed using multiple regression procedure with the collinearity diagnostic option. Table (9-4) indicates that the largest VIF was 6.248 suggesting the absence of multicollinearity within items. In the other hand, tolerance effects in all items were above 0.1, which represent absence of multicollinearity as well.

Table (9-4a). VIF and tolerance effect computed using multiple regression procedure with collinearity diagnostic option

	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics		SMC
	B	Std. Error	Beta			Tolerance	VIF	
(Constant)	0.655	0.513		1.277	0.202			
EXP1	-0.016	0.034	-0.019	-0.463	0.643	0.339	2.951	0.661
EXP2	0.011	0.027	0.013	0.412	0.68	0.574	1.743	0.426
EXP3	0.018	0.033	0.02	0.547	0.585	0.458	2.182	0.542
AWR1	-0.019	0.044	-0.023	-0.426	0.67	0.2	5.008	0.8
AWR2	0.048	0.045	0.055	1.064	0.288	0.224	4.473	0.776
AWR3	0.024	0.042	0.027	0.565	0.572	0.257	3.884	0.743
AWR4	0.001	0.027	0.002	0.054	0.957	0.522	1.915	0.478
PEOU1	0.163	0.045	0.188	3.65	0	0.222	4.5	0.778
PEOU2	0.013	0.042	0.013	0.306	0.759	0.312	3.203	0.688
PEOU3	0.095	0.042	0.094	2.26	0.024	0.341	2.933	0.659
PEOU4	0.067	0.034	0.074	1.948	0.052	0.415	2.41	0.585
PU1	-0.121	0.044	-0.151	-2.766	0.006	0.2	5.008	0.8
PU2	0.095	0.047	0.103	2.042	0.042	0.235	4.262	0.765
PU3	0.005	0.045	0.005	0.1	0.92	0.239	4.185	0.761
PU4	-0.048	0.043	-0.052	-1.107	0.269	0.264	3.795	0.736
PU5	0.027	0.044	0.029	0.617	0.537	0.26	3.842	0.74
PU6	0.064	0.04	0.07	1.618	0.106	0.32	3.129	0.68
ATT1	0.067	0.044	0.079	1.526	0.128	0.219	4.567	0.781
ATT2	-0.039	0.045	-0.042	-0.86	0.39	0.249	4.024	0.751
ATT3	0.07	0.034	0.079	2.041	0.042	0.391	2.561	0.609
ATT4	-0.108	0.027	-0.133	-3.95	0	0.518	1.929	0.482
INNV1	0.145	0.045	0.176	3.239	0.001	0.201	4.964	0.799
INNV2	0.064	0.038	0.069	1.667	0.096	0.345	2.9	0.655
INNV3	-0.052	0.044	-0.056	-1.19	0.234	0.265	3.778	0.735
INNV4	0.057	0.045	0.061	1.286	0.199	0.266	3.758	0.734
INNV5	-0.063	0.046	-0.067	-1.373	0.17	0.25	4.002	0.75
INNV6	-0.04	0.044	-0.041	-0.898	0.369	0.281	3.56	0.719
INNV7	-0.055	0.034	-0.059	-1.642	0.101	0.466	2.147	0.534
RISK1	0.073	0.041	0.092	1.773	0.077	0.22	4.54	0.78
RISK2	-0.113	0.045	-0.131	-2.547	0.011	0.223	4.482	0.777
RISK3	0.087	0.04	0.105	2.16	0.031	0.251	3.978	0.749
RISK4	-0.02	0.04	-0.023	-0.502	0.616	0.28	3.574	0.72
RISK5	0.029	0.04	0.034	0.72	0.472	0.26	3.845	0.74
COM1	0.048	0.043	0.058	1.117	0.265	0.22	4.552	0.78
COM2	-0.028	0.046	-0.031	-0.615	0.539	0.236	4.234	0.764
COM3	0.068	0.042	0.075	1.631	0.104	0.28	3.569	0.72
OBS1	0.125	0.04	0.143	3.103	0.002	0.278	3.595	0.722
OBS2	-0.038	0.042	-0.039	-0.9	0.369	0.307	3.253	0.693
OBS3	0.065	0.031	0.072	2.113	0.035	0.508	1.97	0.492
TRIL1	0.001	0.029	0.002	0.043	0.966	0.422	2.372	0.578

Table (9-4b). VIF and tolerance effect computed using multiple regression procedure with collinearity diagnostic option

	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	SMC
TRIL2	0.006	0.035	0.007	0.18	0.857	0.383	2.609	0.617
TRIL3	0.016	0.035	0.017	0.448	0.655	0.402	2.487	0.598
PRODUCT	-0.03	0.068	-0.013	-0.432	0.666	0.704	1.42	0.296
REL1	-0.058	0.057	-0.046	-1.028	0.304	0.293	3.413	0.707
REL2	-0.014	0.078	-0.01	-0.183	0.855	0.201	4.978	0.799
REL3	-0.07	0.071	-0.048	-0.982	0.327	0.25	4.005	0.75
REL4	0.054	0.072	0.036	0.748	0.455	0.261	3.828	0.739
REL5	-0.068	0.067	-0.046	-1.018	0.309	0.29	3.451	0.71
REL6	-0.119	0.066	-0.08	-1.813	0.07	0.301	3.32	0.699
REL7	0.145	0.064	0.103	2.267	0.024	0.288	3.475	0.712
REL8	0.024	0.056	0.017	0.427	0.67	0.355	2.815	0.645
REL9	0.115	0.061	0.078	1.869	0.062	0.341	2.932	0.659
REL10	0.045	0.066	0.03	0.691	0.49	0.312	3.206	0.688
REL11	0.059	0.062	0.038	0.947	0.344	0.361	2.77	0.639
REL12	-0.005	0.065	-0.003	-0.078	0.938	0.341	2.929	0.659
REL13	-0.015	0.06	-0.01	-0.253	0.8	0.347	2.88	0.653
REL14	0.066	0.058	0.043	1.132	0.258	0.411	2.435	0.589
REL15	-0.029	0.058	-0.02	-0.498	0.619	0.371	2.696	0.629
REL16	0.054	0.067	0.035	0.809	0.419	0.323	3.098	0.677
REL17	-0.076	0.064	-0.048	-1.171	0.242	0.348	2.875	0.652
REL18	0.016	0.064	0.01	0.258	0.797	0.367	2.725	0.633
REL19	-0.094	0.07	-0.06	-1.342	0.18	0.299	3.341	0.701
REL20	0.084	0.073	0.051	1.159	0.247	0.3	3.328	0.7
REL21	-0.048	0.071	-0.031	-0.68	0.497	0.287	3.479	0.713
REL22	-0.021	0.067	-0.014	-0.318	0.751	0.328	3.048	0.672
REL23	-0.052	0.067	-0.033	-0.777	0.437	0.33	3.032	0.67
REL24	0.042	0.065	0.028	0.644	0.52	0.311	3.216	0.689
REL25	0.012	0.05	0.01	0.239	0.811	0.368	2.719	0.632
REL26	-0.001	0.057	0	-0.012	0.99	0.358	2.796	0.642
REL27	-0.04	0.072	-0.025	-0.557	0.578	0.287	3.488	0.713
REL28	0.004	0.069	0.003	0.056	0.955	0.286	3.501	0.714
REL29	0.019	0.062	0.013	0.308	0.758	0.347	2.882	0.653
REL30	-0.114	0.073	-0.072	-1.564	0.118	0.282	3.541	0.718
REL31	-0.045	0.071	-0.03	-0.636	0.525	0.266	3.753	0.734
REL32	-0.041	0.06	-0.028	-0.681	0.496	0.355	2.818	0.645
REL33	0.054	0.061	0.036	0.892	0.373	0.373	2.682	0.627
LISTEN1	-0.083	0.06	-0.066	-1.365	0.173	0.25	4.004	0.75
LISTEN2	0.125	0.058	0.103	2.142	0.033	0.254	3.939	0.746
HUMAN1	0.042	0.033	0.049	1.286	0.199	0.407	2.459	0.593
HUMAN2	-0.016	0.032	-0.019	-0.508	0.612	0.443	2.258	0.557
HUMAN3	-0.056	0.029	-0.064	-1.944	0.052	0.541	1.849	0.459
SOCIAL1	0.069	0.041	0.078	1.695	0.091	0.279	3.58	0.721
SOCIAL2	0.025	0.04	0.027	0.613	0.54	0.315	3.174	0.685
SOCIAL3	0.02	0.037	0.021	0.527	0.598	0.368	2.716	0.632

Table (9-4c). VIF and tolerance effect computed using multiple regression procedure with collinearity diagnostic option

	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	SMC
TRUST1	0.1	0.044	0.119	2.248	0.025	0.212	4.712	0.788
TRUST2	-0.04	0.054	-0.042	-0.751	0.453	0.189	5.287	0.811
TRUST3	-0.017	0.043	-0.018	-0.396	0.692	0.277	3.607	0.723
HV1SD	0.015	0.05	0.016	0.299	0.765	0.208	4.811	0.792
HV2PO	-0.071	0.049	-0.065	-1.427	0.154	0.285	3.504	0.715
HV3UN	-0.046	0.056	-0.05	-0.818	0.414	0.16	6.248	0.84
HV4AC	0.183	0.056	0.185	3.269	0.001	0.184	5.44	0.816
HV5SEC	-0.123	0.053	-0.127	-2.32	0.021	0.198	5.043	0.802
HV6ST	-0.005	0.049	-0.005	-0.106	0.916	0.27	3.705	0.73
HV7CO	-0.013	0.05	-0.014	-0.268	0.789	0.226	4.424	0.774
HV8UN	0.066	0.055	0.066	1.186	0.236	0.189	5.281	0.811
HV9TR	-0.043	0.051	-0.045	-0.834	0.405	0.206	4.856	0.794
HV10HD	0.023	0.047	0.022	0.486	0.627	0.277	3.616	0.723
HV11SD	-0.069	0.05	-0.072	-1.387	0.166	0.22	4.547	0.78
HV12BE	-0.002	0.053	-0.002	-0.044	0.965	0.195	5.127	0.805
HV13AC	-0.051	0.051	-0.054	-0.994	0.321	0.201	4.983	0.799
HV14SEC	0.116	0.051	0.122	2.282	0.023	0.206	4.845	0.794
HV15ST	0.077	0.045	0.077	1.721	0.086	0.297	3.362	0.703
HV16CO	-0.157	0.053	-0.159	-2.976	0.003	0.208	4.815	0.792
HV17PO	-0.019	0.053	-0.02	-0.365	0.715	0.188	5.314	0.812
HV18BE	-0.057	0.052	-0.058	-1.112	0.266	0.219	4.561	0.781
HV19UN	0.084	0.053	0.087	1.599	0.11	0.198	5.051	0.802
HV20TR	0.056	0.051	0.055	1.082	0.28	0.232	4.316	0.768
HV21HD	0.044	0.044	0.045	1.002	0.317	0.297	3.367	0.703

A dependent variable: BI

9.3.3 Sample characteristics

Table (9-5) shows that most of the respondents were between the age groups of 26-35, as are most Internet users with a bank account fall in this age group. In addition, the Saudi Arabian population is described as being dominated by young people as the 15–39 age group represents 45.9 percent of Saudi population (Saudi Statistical Department, 2008).

In regard to sample distribution according to gender, table 9-5 shows that males represent 75.5 percent of the respondents while females represent 25 percent of the

sample. This is related to the researcher employing male assistants to help distribute the paper-based questionnaire. Gender segregation in Saudi Arabia makes it hard for males to gain access to female communities. Therefore, male respondents dominate the sample.

Most of the respondents in the survey were married, as table 9-5 shows. Saudis, like most Muslims, tend to be married in an early age, as the Islamic religion urges its followers to marry early (Saaid, 2011). The average age of marriage in Saudi Arabia is 22 for males and 18 for females. Therefore, it is not surprising to see that the dominant categories in the sample are married and single. As mentioned above, the majority of the Saudi population is young.

The respondents to the questionnaire were of different nationalities as table 9-5 shows. The early results of the Saudi 2010 census indicated that foreigners represent 31 percent of the Saudi Arabian population, as there are around 8,429,401 foreigners living in Saudi Arabia (Central Department of Statistics and Information, 2011). Most foreigners in Saudi Arabia work in low-income occupations and the majority are Muslims since Saudis prefer to recruit Muslim labour to work for them. Table 9-5 shows that the majority of respondents in the sample were Saudis, followed by Sudanese and Egyptians.

Table 9-5 shows the distribution of respondents according to the time they had spent in Saudi Arabia. 34.6 percent of respondents stated that they were born in Saudi Arabia and this was not surprising as 59.8 percent of the respondents were Saudis. Moreover, a substantial number of non-Saudi respondents mentioned that they had been born and lived in Saudi Arabia. The second category that can be considered as representative in the sample is those who have lived for less than three years in Saudi Arabia. Table (9-5) also shows that the majority of respondents had a university education. Even though education is not compulsory in Saudi Arabia (Mnhal al Thkafah, 2011), Saudis believe that seeking knowledge is important for every Muslim as the

Prophet Mohammad (SW) urged his followers to seek knowledge (Islamweb.net, 2011). The literacy rate in Saudi Arabia is 88 percent, 90.4 percent for males and 81.3 percent for females (World Fact Book, 2012). This difference in literacy between males and females could be linked to cultural factors that hinder female education. In general 88 percent can be seen as a satisfactory rate when compared by other developing countries literacy rates.

Respondents working in education and management occupations are represented in the sample (table 9-5). Because cultural restrictions affect female choice of occupation, most of Saudi women work in the education sector. Therefore, it is not surprising to see the education and management categories being the most highly represented within the sample. In table 9-3, two levels of income level groups were the most representative in the sample. Those groups were the less than 75000 SAR and 75000-125000 SAR. The reason behind the representation of these first categories can be related to some of the respondents being students or foreigners who earn low wages. And for the second category, which is considered to be representative, is that most of the respondents to the questionnaire were working in the education and management fields, and the salaries in these two sectors are considered as low to moderate.

Most of respondents prefer an Islamic current account, as indicated in table 9-5. This can be attributed to the respondents' religiosity and to social influence as most Muslims, especially those in conservative Islamic countries, stress the importance of having an Islamic account rather than an account in a conventional bank. Moreover, the Islamic religion prohibits interest rates so Muslims refer to non-Islamic banks as 'rebooy' banks (interest-based bank) and they have negative attitudes to such banks, as discussed in sections 4.2 and 6.3. Table 9-5 indicates that around 54 percent of the respondents have adopted IB, while around 46 percent of the respondents have not yet used it. However, what is surprising in table 9-5 is that 32 percent of respondents reported that they had bank account with conventional banks. This relatively high percentage could arise from respondents misunderstanding the difference between Islamic and non-

Islamic banks. When asked what type of bank account they have, many respondents stated that they had current accounts in conventional bank but these actually often turned out to be well known Islamic banks.

Table 9-5 shows that most of the respondents were from the central region of Saudi Arabia. This is because the questionnaire was distributed in Riyadh, the capital city of Saudi Arabia along with other cities (see appendix C-4, for more details). As table 9-5 shows, Sunni Muslim respondents dominated the sample since Saudi Arabia is a Sunni Muslim country. Between 85–90 percent of the population are Sunni and the rest are Shia (Wikipedia, 2011).

Table (9-5a). Sample characteristics.

Variable		No	%	Variable		No	%
Age	18–25	140	21.4	Gende	Male	493	75.5
	26–35	246	37.7		Female	160	24.5
	36–45	155	23.7	Nationality	Saudi	391	59.8
	46–55	71	10.9		Sudanese	81	12.4
	55–above	41	6.3		Egyptian	63	9.6
Marital status	Single	273	41.8		Syrian	37	5.7
	Married	293	44.9		Yamane	23	3.5
	Divorced	48	7.4		Jordanian	15	2.3
	Widow / Widower	39	6.0		Other nationalities	10	1.5
Years respondents have been living at Saudi Arabia	Since you have been born	226	34.6		Palestinian	7	1.1
	More than 10 years	72	11.0		Emirati	4	0.6
	From 6 to less than 10 years	63	9.6		Tunisian	3	0.5
	From 3 to less than 6 years	112	17.2	Moroccan	3	0.5	
	Less than 3 years	180	27.6	Qatari	2	0.3	
				Kuwaiti	1	0.2	

Table (9-5b). Sample characteristics.

Variable		No	%	Variable		No	%
Education level	Less than high school	28	4.3	Income	Less than 75000 SAR	318	48.7
	High school	154	23.6		75001–125000 SAR	173	26.5
	Some graduate university	119	18.2		125001–200000SAR	86	13.2
	University Graduate	284	43.5		200001–2750000SAR	33	5.1
	Post graduate	68	10.4		More than 2750001 SAR	43	6.6
Religious domination	Sunni	626	95.7	Bank account type	Current Islamic account	256	39.2
	Shia	27	4.1		Current ordinary account	209	32.0
Internet use	User	352	53.9		Islamic investment account	131	20.1
	Not user	301	46.1		Saving account	26	4.0
Occupation	Management	122	18.7	Other account	31	4.7	
	Education	193	29.6	Province	Central	478	73.2
	Health care	94	14.4		North	27	4.1
	Student	50	7.7		South	17	2.6
	Financial	72	11.0		East	33	5.1
	Business	30	4.6	West	95	14.5	
	No occupation	46	7.0	Relig	Low	95	14.5
	Other specify	46	7.0		Moderate	181	27.7
			High		377	57.7	

As table 9-5 indicates, Shia are not represented in the research sample. This could be because most Shia in Saudi Arabia are located in the Eastern Province and as table 9-5 shows, respondents from the Eastern Province represent only 5.1 percent of the sample. Table 9-5 shows that the highly religious group of respondents represented the highest percentage of the sample at 57.7 percent. Decisions about the personal religiosity level has been decided on according to Krauss (2010; see section 9.6.3.2.2).

9.3.4 Respondents' characteristics in regards to their e-banking behaviour and their religiosity levels

Table 9-6 illustrates the frequency of responses to research questions about willingness to accept religious leaders' advice in making financial decisions. The results also show the Chi-Square Tests results, which indicate a significant difference in Muslim consumers' acceptance of religious leaders' advice about their financial decisions, as Muslim consumers differ in their personal religiosity. What is surprising is that 61.7 percent of the respondents with a low religiosity level strongly agreed with the importance of people accept religious leaders' opinions about making all of their financial decisions. While only 28.6 percent of the respondents with a high religiosity level strongly agreed with the same statement. This result indicates that respondents with low religiosity are more willing to listen to the advice of religious leaders than those respondents with high religiosity. However, the last column of the table indicates that in general respondents show a strong level of agreement (32.8 percent) with the statement, which indicates that consumers in conservative Islamic countries place importance on religious leaders' opinions in regard to making their financial decisions.

Table (9-6). The distribution of the sample according to the importance that people of various levels of religiosity give to accept the opinions of Muslim religious leaders about their financial decisions *

		Religiosity level			Total
		Low	Moderate	High	
It is important that people listen to the opinion of the Muslim religious leaders in all their financial decisions.	Strongly agree	50 (61.7%)	54 (28.9%)	110 (28.6%)	214 (32.8%)
	Agree	8 (9.9%)	55 (29.4%)	152 (39.5%)	215 (32.9%)
	Neither agree nor disagree	14 (17.3%)	16 (8.6%)	24 (6.2%)	54 (8.3%)
	Disagree	6 (7.4%)	40 (21.4%)	46 (11.9%)	92 (14.1%)
	Strongly disagree	3 (3.7%)	22 (11.8%)	53 (13.8%)	78 (11.9%)
Total		81	187	385	653
p< 0.001, Test statistics= 67.898, DF= 8					

The following table (Table 9-7) represents respondents' answers to questions related to their willingness to accept religious leaders in making their e-banking services adoption decisions. Results also include Chi-Square Tests. Test results indicate a significant difference in Muslim consumers' acceptance of religious leaders' advice in regard to their Internet bank adoption decisions, as Muslim consumers differ in terms of their personal religiosity. In contrast to what was expected, table 9-7 indicates that 61.7 percent of the respondents who were low in religiosity strongly agree that it was important to consider religious leaders' advice in making decisions about their adoption of IB, compared to only 26 percent of respondents who are high in religiosity who strongly agree with the same statement. Table 9-7 shows that 31.7 percent of the respondents in the sample believe in the importance of taking religious leaders' advice before considering adopting IB. Only 13.2 percent of the respondents strongly disagree with the importance of religious leaders' advice on their decisions to adopt IB.

Table (9-7). The distribution of the sample according to respondents' willingness to accept religious leaders' advice about Internet banks.

		Religiosity level			Total
		Low	Moderate	High	
I will not accept Internet-only banks if reliable Muslim religious leaders tell me that it is not religiously approved.	Strongly agree	50 (61.7%)	57 (30.5%)	100 (26.0%)	207 (31.7%)
	Agree	9 (11.1%)	37 (19.8%)	155 (40.3%)	201 (30.8%)
	Neither agree nor disagree	11 (13.6%)	27(14.4%)	28 (7.3%)	66 (10.1%)
	Disagree	5 (6.2%)	39 (20.9%)	49 (12.7%)	93(14.2%)
	Strongly disagree	6 (7.4%)	27 (14.4%)	53 (13.8%)	86(13.2%)
Total		81	187	385	653
P< 0.001, Test statistics = 75.813, DF= 8					

These contrasting results in tables 9-6 and 9-7 regarding what was expected could be attributed to the nature of the relationship between religion and state in the country where this study took place. Traditions and social norms may impose pressure on members in conservative Islamic countries and this would make members in these

countries adhere more to religious rules and admire religious leaders. Kalliny and Hausman (2007) mentioned that the fear of being labelled as un-Islamic or as an infidel makes people in countries where religion and the state are not separated more willing to accept religious rules to not be excluded from or punished by society. Even though products or services may not be branded as un-Islamic in Islamic countries where religion and the state are not separated (e.g., Saudi Arabia and Iran), people usually engage in mental struggles to decide whether such innovation fits the religion's requirements (Kalliny & Hausman, 2007). This struggle to make a decision regarding the rejection or the acceptance of an innovation is usually influenced by people's fear of being labelled as un-Islamic or as infidel by the religious authorities. This could explain the surprising results in tables 9-6 and 9-7, in which most of the less religious respondents worried that if they expose negative feelings to a religious leader, they could be socially excluded. Therefore, they choose to show their loyalty and respect toward religious authorities, and this may not reflect their true feelings.

In addition, table 9-8 shows the importance that respondents give to obtaining Islamic banking services through Internet-only banks. According to the results of Chi-Square Tests, table 9-8 shows that Muslim consumers differ in the importance they give to the introduction of banking products through Internet banks in relation to the differences in their personal religiosity.

In regard to the importance consumers place on to religiously related products in making their Internet bank adoption decisions, table 9-8 indicates that consumers who are high in religiosity (62.1percent) are more concerned with obtaining Islamic banking through Internet banks than those who are low in religiosity (37 percent). Table 9-8 shows that respondents attached importance to obtaining Islamic banking through Internet banks. 55.6 percent of the respondents in the sample believed that IB should be Islamic for them to adopt it.

Table (9-8). The importance Muslim consumers give to obtaining Islamic banking services through Internet-only banks, according to their personal religiosity

		Religiosity level			Total
		Low	Moderate	High	
Do you care that the Internet-only bank, which you may deal with, provides you with Islamic banking?	Sure, it should be Islamic.	30 (37.0%)	94 (50.3%)	239 (62.1%)	363 (55.6%)
	Uncertain.	34 (42.0%)	58 (31.0%)	116 (30.1%)	208 (31.9%)
	It does not make a difference to me.	17 (21.0%)	35 (18.7%)	30 (7.8%)	82 (12.6%)
Total		81	187	385	653
p< 0.001 Test statistics = 29.085, DF= 4					

Table 9-9 shows the association between gender, income level, educational level, personal religiosity level, and age compared to the respondent's preference for e-banking methods. Gamma test results in table 9-9 show no significant association between gender and respondents preferences' for different e-banking methods. On the other hand, the results show a negative association between gender and telephone banking preferences, which suggests that males prefer that method of e-banking more than females. However, there were still no significant differences in male and female rankings of e-banking methods. Gamma test results with regard to IB in table 9-9 are negative, which indicates a negative association between gender and IB preferences. This indicates that men prefer IB more than women do, but this is still not significant. In regard to ATMs, mobile and branch banking, the signs of the Gamma test result are positive. However, the results are not significant.

In respect to educational level, the gamma test results in table 9-9 indicate that there is a significant association between educational level and respondents' ranking of their preferences about telephone banking, ATM banking, and IB. The significant results in table 9-9 refer to a positive significant relationship between respondents' educational level and their preferences for using telephone banking, which indicate that the higher

education the respondents have, the more the person will prefer to use telephone banking.

Table (9-9a). Summary of the Gamma test results

Gender					
Method	Telephone banking	ATM Banking	Mobile banking	Internet banking	Branch banking
Value / significant	-0.04 (0.748)	0.074 (0.318)	-0.003 (0.967)	- 0.057 (0.402)	0.001 (0.994)
Asymp. Std. Error ^a	0.066	0.073	0.070	0.068	0.076
Number of cases	653		653	653	653
Education					
Method	Telephone banking	ATM Banking	Mobile banking	Internet banking	Branch banking
Value / significant	0.186** (0.00)	0.124** (0.011)	- 0.062 (0.20)	- 0.251** (0.00)	- 0.024 (0.651)
Asymp. Std. Error ^a	0.042	0.048	0.048	0.042	0.053
Number of cases	653		653	653	653
Age					
Method	Telephone banking	ATM Banking	Mobile banking	Internet banking	Branch banking
Value / significant	0.136** (0.001)	0.015 (0.736)	- 0.06 (0.212)	- 0.035 (0.402)	- 0.125* (0.011)
Asymp. Std. Error ^a	0.042	0.046	0.045	0.041	0.049
Number of cases	653		653	653	653
Income					
Method	Telephone banking	ATM Banking	Mobile banking	Internet banking	Branch banking
Value / significant	0.139** (0.002)	0.191** (0.00)	- 0.106* (0.033)	- 0.225** (0.00)	- 0.010 (0.850)
Asymp. Std. Error ^a	0.045	0.049	0.050	0.044	0.055
Number of cases	653		653	653	653
a. Not assuming the null hypothesis; ** P<0.01; * P<0.05					

Table (9-9b). Summary of the Gamma test results

Religiosity level					
Method	Telephone banking	ATM Banking	Mobile banking	Internet banking	Branch banking
Value / significant	0.355** (0.00)	0.052 (0.36)	-0.227** (0.00)	-0.131* (0.011)	0.205** (0.001)
Asymp. Std. Error ^a	0.047	0.056	0.053	0.051	0.062
Number of cases	653		653	653	653
a. Not assuming the null hypothesis; ** P<0.01; * P<0.05					

The same can be applied to ATM banking, as the results in table 9-9 show a significant positive relationship with educational level. On other hand, the results in regards to IB are quite surprising as they indicate a significant negative relationship with educational level. That indicates that the higher education the respondents have, the less preference they will have for IB. On the other hand, the relationship between educational level and respondents' ranking of their preferences for mobile banking and branch banking is negative, but it is not significant.

Table 9-9 shows a significant positive association between age and the preference for telephone banking and branch banking. However, in regards to ATM banking, IB and mobile banking, the association is not significant, although it is positive for ATM banking and negative for mobile banking. The significant positive relationship between age and the respondents' ranking of their preferences of telephone banking suggest that, the older people become, the more they prefer to use telephone banking. However, the results in table 9-9 did not take differences in gender within this age group into account, in order to see if this significant relationship between age and preferences of telephone banking is stronger in women or men. In regard to the relationship between age and respondents' ranking of their preferences for branch banking, table 9-9 shows a significant negative association. This is in contrast to previous studies (Morris et al., 2005) that refer to older people as being more influenced by social norms. By comparing this result with the results of the relationship between age and IB and mobile banking

preferences, it is clear that this negative relationship also exists even though it is not significant in regard to Internet and mobile banking. These negative results state that the older the person the less preference he/she will show for branch banking.

In regards to the association between income level and respondents' preferences in terms of the ranking of e-banking methods, the results in table 9-9 show that the relationships are significant except for those related to branch banking. The results show a significant positive relationship between respondents' income levels and their preferences for telephone or ATM banking. This suggests that the higher a person's income, the more they are likely to prefer using ATMs and phone banking. On the other hand, the results of table 9-9 also indicate that there is a significant negative relationship between respondents' income levels and their preferences for mobile and IB. These negative relationships suggest that the higher the income level of the person, the less they will show a preference for the use of Internet and mobile banking. This arise from the fear of risk, in that people with a high income level may fear the risk in e-banking more than those with low income level, as has been suggested by some of the interviewees. In regard to branch banking, the results show a negative but not significant relationship between respondents' income levels and their ranking of preferences for branch banks.

Table (9-9) indicates a significant association between respondents' religiosity level and their ranking of preferences for four e-banking methods. Preferences for using telephone banking and branch banking are positively related to respondents' religiosity level. The higher the religiosity of a person, the more preference the person shows for using telephone banking and branch banking. On the other hand, preferences for using mobile banking and IB are negatively related to religiosity levels. The higher the religiosity of the person, the less preference they will shows for the use of mobile and IB. In regard to ATM banking, the results showed a positive relationship between religiosity and preferences for using ATM banking but this relation was not significant. This negative association between respondents' religiosity level and their preference of

IB and phone banking is consistent with the previous literature (Tansuhaj et al., 1991; Hanzaee & Ramezani, 2011), which refers to a negative relationship between religiosity and technology acceptance.

9.4 Factor analysis

Factor analysis is best way to understand the underlying structure of a particular theory and its variables in analysis (Tabochnick & Fidell, 2007: 26). The purpose of factor analysis is to reduce the information contained in a number of measuring items into a smaller set of new composite dimensions (Hair et al., 2006). Two techniques of factor analysis are usually used: exploratory factor analysis (EFA), and confirmatory factor analysis (CFA) (Hair et al., 2006). The purpose of EFA is to explore the data and provide information to researcher about the number of possible factors that represent the data, whereas the purpose of CFA is to validate or confirm the measurement factors that exist within a set of variables involved in theoretical model (Hair et al., 2006).

The model can be assessed with three approaches: the exploratory factor analysis approach, the confirmatory factor analysis approach, and a hybrid approach (Ahire & Devaraj, 2001). Ahire & Devaraj (2001) validated the advantages of CFA but also highlight the merits of EFA in detecting unidimensionality issues and multidimensional sets within constructs measurements compared to CFA. Therefore, the authors recommended the use of a hybrid approach in which the researcher starts with EFA and proceeds with CFA for its multiple advantages. The results of EFA and CFA are discussed in the following subsections.

9.4.1 Exploratory Factor Analysis (EFA)

This study used exploratory factor analysis to examine the measurement items corresponding to the variables presented in the conceptual framework. The principal component analysis (PCA) was selected to generate the initial solutions for the EFA. The orthogonal varimax rotational method for the extraction was also selected. Among

the assessment of adequacy of extracted factors criterion two were used in this research, namely: latent root criterion and percentage of variance criterion.

The eigenvalues greater than one satisfies the latent root criterion and a solution that accounts 60 percent or above cumulative variance satisfies the variance percentage criterion (Hair et al., 2006). On the other hand, Kaiser-Meyer-Olkin (KMO) to measure sampling adequacy and Barlett's test of sphericity should be calculated to achieve appropriate factor analysis results. The value of $KMO > 0.6$ suggests that the relationship between items is statistically significant and suitable for EFA whereas Bartlett's test of sphericity indicates that the correlation among the measurement items is higher than 0.3 and is suitable for EFA (Hair et al., 2006).

In the current study, EFA was run for 117 items derived from the literature of technology acceptance behaviour and literature of cultural studies. The results in table (9-10) indicated a KMO value is 0.955, which is greater than 0.60, and Bartlett's is significant ($p < 0.005$) which satisfies the initial assumption for EFA.

Table (9-10). KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		0.955
Bartlett's test of sphericity	Approx. Chi-Square	61671.581
	Df	6105
	Sig.	0.000

The table below (Table (9-11)) presents the information about communalities explained by each item. Most of the items shared 0.5 communalities with their components, which indicated that the items fit well with other items in some components (Hair et al., 2006).

Table (9-11a) Communalities shared by individual items					
	Initial	Extraction		Initial	Extraction
EXP1	1.000	.621	REL1	1.000	.636
EXP2	1.000	.586	REL2	1.000	.726
EXP3	1.000	.505	REL3	1.000	.697
AWR1	1.000	.808	REL4	1.000	.705
AWR2	1.000	.805	REL5	1.000	.683
AWR3	1.000	.816	REL6	1.000	.679
AWR4	1.000	.620	REL7	1.000	.725
PEOU1	1.000	.696	REL8	1.000	.627
PEOU2	1.000	.647	REL9	1.000	.587
PEOU3	1.000	.656	REL10	1.000	.644
PEOU4	1.000	.620	REL11	1.000	.620
PU1	1.000	.766	REL12	1.000	.633
PU2	1.000	.736	REL13	1.000	.667
PU3	1.000	.758	REL14	1.000	.568
PU4	1.000	.755	REL15	1.000	.654
PU5	1.000	.747	REL16	1.000	.662
PU6	1.000	.697	REL17	1.000	.626
BI1	1.000	.740	REL18	1.000	.643
BI2	1.000	.739	REL19	1.000	.661
BI3	1.000	.717	REL20	1.000	.678
ATT1	1.000	.718	REL21	1.000	.689
ATT2	1.000	.690	REL22	1.000	.659
ATT3	1.000	.619	REL23	1.000	.639
ATT4	1.000	.668	REL24	1.000	.656
INNV1	1.000	.719	REL25	1.000	.662
INNV2	1.000	.569	REL26	1.000	.605
INNV3	1.000	.655	REL27	1.000	.682
INNV4	1.000	.708	REL28	1.000	.711
INNV5	1.000	.745	REL29	1.000	.634
INNV6	1.000	.760	REL30	1.000	.674
INNV7	1.000	.630	REL31	1.000	.720
RISK1	1.000	.754	REL32	1.000	.620
RISK2	1.000	.768	REL33	1.000	.567
RISK3	1.000	.786	LISTEN1	1.000	.684
RISK4	1.000	.749	LISTEN2	1.000	.683

Table (9-11b). Communalities shared by individual items					
	Initial	Extraction		Initial	Extraction
RISK5	1.000	.780	HV1SD	1.000	.734
COM1	1.000	.716	HV2PO	1.000	.665
COM2	1.000	.676	HV3UN	1.000	.774
COM3	1.000	.646	HV4AC	1.000	.724
OBS1	1.000	.705	HV5SEC	1.000	.728
OBS2	1.000	.650	HV6ST	1.000	.652
OBS3	1.000	.565	HV7CO	1.000	.712
TRIL1	1.000	.595	HV8UN	1.000	.766
TRIL2	1.000	.640	HV9TR	1.000	.738
TRIL3	1.000	.686	HV10HD	1.000	.674
PRODUCT	1.000	.544	HV11SD	1.000	.689
HUMAN1	1.000	.715	HV12BE	1.000	.722
HUMAN2	1.000	.567	HV13AC	1.000	.729
HUMAN3	1.000	.602	HV14SEC	1.000	.765
SOCIAL1	1.000	.671	HV15ST	1.000	.643
SOCIAL2	1.000	.667	HV16CO	1.000	.759
SOCIAL3	1.000	.642	HV17PO	1.000	.752
TRUST1	1.000	.781	HV18BE	1.000	.708
TRUST2	1.000	.773	HV19UN	1.000	.750
TRUST3	1.000	.764	HV20TR	1.000	.713
			HV21HD	1.000	.630
Extraction method: PCA					

The table below (Table 9-12) presents the total variance explained by each component. The number of factors that contributed Eigenvalues >1 were only significant remaining were disregarded (Hair et al., 2006). Table (9-13) display components results where 17 components were having Eigenvalues >1. These 17 components explained total variance of 69.08 percent, which is higher than the recommendation.

Table (9-12). Total variance explained by each component									
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	32.765	29.518	29.518	32.765	29.518	29.518	18.548	16.710	16.710
2	14.358	12.935	42.453	14.358	12.935	42.453	14.982	13.497	30.207
3	6.194	5.580	48.033	6.194	5.580	48.033	11.407	10.276	40.483
4	3.269	2.945	50.979	3.269	2.945	50.979	4.089	3.684	44.167
5	2.836	2.555	53.534	2.836	2.555	53.534	3.265	2.942	47.109
6	1.871	1.686	55.220	1.871	1.686	55.220	3.044	2.742	49.851
7	1.703	1.535	56.754	1.703	1.535	56.754	2.615	2.356	52.206
8	1.624	1.463	58.217	1.624	1.463	58.217	2.359	2.125	54.332
9	1.508	1.358	59.576	1.508	1.358	59.576	2.229	2.009	56.340
10	1.462	1.317	60.893	1.462	1.317	60.893	2.213	1.994	58.334
11	1.352	1.218	62.111	1.352	1.218	62.111	2.022	1.821	60.156
12	1.322	1.191	63.302	1.322	1.191	63.302	1.972	1.777	61.932
13	1.256	1.131	64.433	1.256	1.131	64.433	1.915	1.725	63.657
14	1.229	1.289	65.522	1.229	1.289	65.522	1.512	1.372	64.929
15	1.219	1.235	66.557	1.219	1.235	66.557	1.502	1.336	66.165
16	1.209	1.089	68.045	1.209	1.089	68.045	1.412	1.272	67.389
17	1.149	1.035	69.08	1.149	1.035	69.08	1.372	1.236	68.464

Extraction method: PCA.

The next step is to examine the factor loading. The items having factor loading <0.4 or cross loading >0.40 present weak consistency within scale and are recommended to be removed (Hair et al., 2006). The rotated pattern matrix (table 9-13) show 17 factors solution. Table (9-13) indicates that items were loaded on 17 factors ranging from 0.83 to 0.42 and satisfied the minimum factor loading criteria (Hair et al., 2006).

Table (9-13a).The rotated pattern matrix

Items/ Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
EXP1	0.298	0.034	0.6	0.069	0.28	0.205	0.18	0.033	0.027	0.029	0.092	-0.055	0.117	0.092	-0.064	-0.061	0.079
EXP2	0.117	0.16	0.62	0.096	0.112	-0.012	-0.169	-0.089	-0.088	0.625	0.059	0.11	0.055	0.084	-0.093	0.094	0.001
EXP3	0.231	0.068	0.48	-0.077	0.21	0.021	0.151	0.046	-0.104	0.098	0.088	-0.012	0.017	-0.003	-0.007	-0.03	0.044
AWR1	0.224	0.039	0.361	-0.04	0.172	0.75	0.107	0.073	0.036	0.074	0.065	-0.004	0.098	0.082	0.027	-0.013	-0.008
AWR2	0.183	0.078	0.27	-0.066	0.155	0.79	0.116	0.101	0.04	0.11	0.068	0.056	0.057	0.019	0	0.027	0
AWR3	0.151	0.037	0.235	-0.121	0.173	0.81	0.063	0.061	0.024	0.154	0.067	0.064	-0.005	-0.057	-0.047	0.075	0.018
AWR4	0.035	-0.149	-0.027	0.003	0.095	0.70	-0.015	-0.104	0.075	0.667	0.082	0.003	0.129	-0.001	0.003	-0.098	0.007
PEOU1	0.339	0.063	0.355	0.159	0.45	0.147	0.168	0.177	0.158	-0.093	0.035	0.019	0.161	0.057	-0.014	-0.023	-0.005
PEOU2	0.308	0.134	0.272	0.194	0.51	0.065	0.234	0.109	0.175	0.028	-0.075	0.002	0.142	-0.003	-0.073	0.001	-0.066
PEOU3	0.361	0.011	0.34	0.057	0.52	0.119	0.167	0.101	0.069	0.036	0.026	-0.082	-0.02	0.019	0.017	0.004	0.013
PEOU4	0.242	-0.092	0.225	-0.03	0.53	0.224	0.126	0.087	-0.003	0.195	-0.039	-0.047	-0.004	0.005	0.031	0.014	0.042
PU1	0.359	0.013	0.118	0.74	0.157	0.159	-0.008	0.052	-0.011	-0.037	0.063	-0.141	0.1	0.007	0.119	-0.092	-0.024
PU2	0.248	0.04	0.102	0.79	0.108	0.111	0.03	0.058	0.086	0.045	0.009	-0.045	0.096	0.01	0.053	-0.014	0.021
PU3	0.241	0.057	0.055	0.81	0.081	0.057	0.077	0.023	0.116	0.01	-0.007	0.045	0.07	0.056	-0.048	-0.007	0.025
PU4	0.239	0.078	0.129	0.78	0.077	-0.009	0.093	0.017	0.104	0.078	-0.075	0.141	0.007	-0.009	-0.105	0.095	0.018
PU5	0.294	0.005	0.073	0.78	0.078	0.029	0.116	0.137	-0.032	0.007	0.049	0.018	-0.051	-0.012	-0.076	-0.026	-0.017
PU6	0.234	0.09	0.118	0.73	0.161	0.009	0.14	0.105	-0.03	0.112	0.041	0.087	-0.143	-0.041	-0.067	0.031	-0.005
BI1	0.263	-0.017	0.349	0.152	0.009	0.189	0.55	0.129	0.273	-0.072	0.223	0.195	0.173	-0.044	0.055	0.012	-0.009
BI2	0.164	0.065	0.293	0.189	0.105	0.173	0.59	0.169	0.258	-0.054	0.205	0.327	0.105	-0.019	0.006	0.069	-0.024
BI3	0.226	0.068	0.355	0.171	0.112	0.106	0.63	0.1	0.158	-0.068	0.221	0.193	0.023	0.019	0.056	0.086	0.016
ATT1	0.345	0.009	0.496	0.119	0.186	0.171	0.063	0.292	0.53	-0.048	0.167	0.008	0.093	-0.095	0.285	-0.11	-0.017
ATT2	0.305	0.059	0.477	0.068	0.221	0.215	0.098	0.33	0.54	0.013	0.13	-0.081	0.058	-0.13	0.265	-0.016	-0.01
ATT3	0.245	-0.146	0.239	-0.055	0.279	0.293	0.1	0.295	0.51	0.358	0.103	-0.174	-0.07	-0.103	0.274	0.086	-0.025

Items/ Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ATT4	0.013	-0.071	-0.094	0.092	-0.132	0.081	0.128	0.099	0.74	0.744	0.002	0.074	0.093	-0.037	0.044	-0.007	-0.008
INNV1	0.318	0.087	0.009	0.156	0.13	0.219	0.318	0.55	0.162	-0.074	0.072	0.055	0.195	-0.004	0.149	-0.07	0.025
INNV2	0.268	0.223	0.105	0.161	0.059	0.061	0.147	0.53	0.116	0.079	0.109	0.026	0.197	0.044	0.136	-0.105	-0.058
INNV3	0.24	0.114	0.112	0.073	0.055	0.212	0.045	0.48	0.218	-0.038	0.185	0.084	0.098	-0.054	0.182	0.033	0.054
INNV4	0.273	0.066	0.186	0.082	0.077	0.189	0.01	0.51	0.211	-0.078	0.184	0.11	0.1	0.02	0.155	-0.055	0.037
INNV5	0.267	0.083	0.008	0.093	0.157	0.13	0.078	0.62	0.106	-0.028	0.117	-0.042	0.084	0.034	0.063	-0.02	-0.05
INNV6	0.268	0.066	0.367	0.099	0.177	0.059	0.007	0.69	0.093	-0.032	0.102	0.006	0.05	0.032	-0.014	-0.007	-0.062
INNV7	0.255	0.043	0.282	0.093	0.143	0.058	0.045	0.64	-0.083	0.094	0.063	0.056	0.069	-0.026	-0.112	0.029	0.067
RISK1	0.384	0.04	0.208	0.029	0.049	-0.025	0.01	0.064	0.043	0.71	-0.015	-0.085	0.118	-0.007	0.104	-0.09	0.029
RISK2	0.328	0.059	0.216	0.053	0.094	-0.058	0.048	0.008	0.055	0.74	-0.001	-0.106	0.067	0.003	0.067	-0.105	0.053
RISK3	0.252	0.142	0.11	0.003	0.079	-0.033	0.03	0.025	0.061	0.81	0.048	0.084	0.052	-0.049	-0.037	0.076	0.003
RISK4	0.191	0.08	0.133	0.009	0.035	-0.029	0.077	0.016	0.049	0.81	0.062	0.097	0.002	0.043	-0.021	0.03	0.009
RISK5	0.174	0.092	0.078	0.024	0.043	-0.043	0.084	0.018	0.045	0.83	0.076	0.088	-0.038	0.026	-0.061	0.024	-0.044
COM1	0.25	0.023	0.505	0.132	0.123	0.24	0.118	0.128	0.219	-0.196	0.395	0.54	0.225	-0.005	0.053	0.016	-0.074
COM2	0.212	0.03	0.536	0.087	0.086	0.236	0.069	0.125	0.189	-0.168	0.378	0.54	0.191	-0.03	0.024	0.117	-0.124
COM3	0.212	0.031	0.536	0.068	0.054	0.267	0.144	0.063	0.133	-0.159	0.368	0.55	0.124	-0.079	0.037	0.051	-0.116
OBS1	0.233	0.02	0.316	-0.02	0.271	0.102	0.047	-0.085	0.067	-0.057	-0.012	-0.07	0.45	0.03	-0.028	-0.212	0.21
OBS2	0.129	0.234	0.03	0.054	0.026	0.122	0.073	0.098	0.127	0.049	0.108	0.059	0.55	0.02	0.117	-0.061	0.178
OBS3	0.002	-0.029	0.102	0.02	0.117	-0.061	0.178	-0.114	0.009	0.099	0.101	0.102	0.57	0.15	0.103	-0.058	0.115
TRIL1	0.223	0.086	0.4	0.039	0.166	0.174	0.11	0.136	0.158	0.123	0.44	0.1	0.267	0.056	-0.046	-0.057	0.039
TRIL2	0.266	0.105	0.27	0.173	0.051	0.092	0.134	0.151	0.081	0.182	0.57	0.003	0.019	0.012	0.033	-0.056	0.056
TRIL3	0.265	0.041	0.23	0.186	0.095	0.043	0.162	0.107	0.113	0.13	0.65	-0.008	-0.068	-0.02	-0.053	-0.025	-0.022
PRODUCT	-0.075	0.172	-0.054	-0.007	0.029	0.065	-0.006	-0.009	-0.033	-0.018	-0.032	0	-0.035	0.002	-0.002	0.707	0.017
REL1	0.64	0.073	0.265	0.16	0.129	0.234	0.03	0.054	0.026	0.122	0.073	0.098	0.127	0.049	0.022	-0.09	0.047
REL2	0.72	0.046	0.29	0.165	0.142	0.112	0.108	0.059	-0.061	-0.04	0.14	0.009	0.099	-0.049	0.088	-0.137	0.057
REL3	0.72	0.085	0.245	0.138	0.101	0.102	0.078	0.058	0.002	-0.029	0.102	0.02	0.117	-0.061	0.178	-0.114	0.041

Items/ Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
REL4	0.73	0.049	0.21	0.142	0.106	0.058	0.064	0.059	-0.039	0.056	0.072	0.15	0.103	-0.058	0.115	-0.073	0.131
REL5	0.69	0.008	0.244	0.121	0.085	0.061	0.053	0.128	-0.023	-0.008	0.069	0.227	0.115	-0.064	0.159	-0.102	0.164
REL6	0.68	0.026	0.167	0.086	0.085	0.017	0.085	0.046	-0.017	0.087	0.028	0.316	0.102	0.012	0.137	-0.145	0.043
REL7	0.58	0.161	0.031	0.088	0.089	0.115	0.098	0.086	-0.001	0.164	0.043	0.557	0.067	0.017	0.059	-0.054	0.074
REL8	0.56	0.118	0.079	0.242	0.077	0.131	0.036	0.021	0.124	0.115	0.042	0.371	0.024	-0.103	0.04	0.08	-0.103
REL9	0.59	0.113	0.152	0.134	0.201	0.019	0.089	0.01	0.018	0.045	0.026	0.256	0.117	-0.088	0.137	0.13	0.004
REL10	0.69	0.065	0.195	0.026	0.205	-0.065	0.045	-0.029	0.019	0.042	0.135	0.182	-0.002	0.025	0.183	0.053	-0.043
REL11	0.61	0.046	0.186	0.028	0.08	-0.04	0.027	0.004	0.056	0.16	0.048	0.368	0.06	0.15	0.039	0.042	-0.023
REL12	0.67	-0.019	0.066	0.024	0.119	0.091	0.124	0.045	0.012	0.118	0.015	0.218	0.068	0.17	0.097	-0.008	-0.132
REL13	0.56	0.127	0.027	0.039	0.011	0.08	0.032	0.027	0.004	0.14	0.039	0.453	0.144	0.209	-0.067	0.025	-0.007
REL14	0.68	-0.058	0.099	0.049	0.106	0.041	0.075	-0.049	0.04	0.034	0.095	-0.087	0.063	0.124	0.048	0.085	0.045
REL15	0.54	0.055	0.097	0.059	0.064	0.026	0.038	0.053	0.109	0.075	-0.029	0.268	0.082	0.409	-0.052	-0.086	0.025
REL16	0.63	0.089	0.176	0.155	0.098	0.001	0.083	0.028	0.099	-0.01	0.028	0.034	0.037	0.345	-0.044	-0.026	-0.012
REL17	0.68	0.037	0.127	0.06	0.054	0.067	0.045	0.011	0.075	-0.049	0.028	-0.12	-0.017	0.211	0.019	0.003	0.046
REL18	0.69	0.014	0.081	0.033	0.031	0.107	0.033	0.097	0.079	0.03	-0.053	0.073	-0.013	0.305	-0.055	-0.041	-0.042
REL19	0.71	-0.017	0.143	0.122	0.089	0.128	0.047	0.094	0.089	-0.041	0.029	-0.08	0.021	0.201	-0.039	0.055	-0.068
REL20	0.7	0.049	0.091	0.088	0.004	0.148	0.053	0.102	0.092	0.053	-0.062	-0.071	-0.043	0.27	-0.097	0.126	-0.099
REL21	0.73	-0.024	0.18	0.014	0.097	-0.044	0.03	0.004	0.08	0.008	0.064	-0.216	-0.034	0.129	0.05	0.154	-0.044
REL22	0.66	0.044	0.227	0.091	0.084	0.026	0.073	-0.005	0.044	-0.026	0.063	-0.124	0.171	-0.044	-0.002	0.153	-0.188
REL23	0.67	0.088	0.203	0.009	0.119	-0.06	0.129	-0.077	0.042	-0.022	0.103	-0.087	0.179	0.011	0.031	0.136	-0.199
REL24	0.73	0.063	0.201	0.013	0.083	-0.029	0.057	0.018	0.022	-0.032	0.106	-0.053	0.08	-0.047	0.066	0.05	-0.174
REL25	0.48	0.318	0.057	0.121	-0.015	0.038	0.031	0.108	0.084	0.175	-0.064	0.376	0.22	-0.095	-0.276	0.035	0.031
REL26	0.65	-0.046	0.246	0.073	0.119	0.046	0.013	0.042	0.058	0.026	0.061	-0.108	0.135	-0.27	-0.042	-0.015	-0.027
REL27	0.7	0.019	0.14	0.063	0.062	0	0.047	0.055	0.055	0.051	0.009	0.061	0.058	-0.26	-0.192	-0.123	0.023
REL28	0.7	0.06	0.083	0.043	0.031	0.018	0.034	0.073	0.104	0.071	0.009	0.2	0.071	-0.241	-0.17	-0.115	-0.017
REL29	0.66	0.002	0.155	0.172	-0.037	0.111	0.113	0.097	0.199	-0.02	0.01	0.139	-0.03	-0.166	-0.069	-0.164	0.101
REL30	0.71	-0.014	0.253	0.123	0.031	0.025	0.091	0.053	0.112	-0.095	0.082	-0.165	0.005	-0.172	0.076	-0.031	0.139

Items/ Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
REL31	0.77	0.009	0.184	0.083	0.057	0.032	0.022	0.108	0.089	-0.069	0.1	-0.1	-0.078	-0.163	-0.003	-0.07	0.092
REL32	0.69	0.077	0.075	0.127	0.038	0.093	0.094	0.146	0.064	-0.042	0.037	0.044	-0.047	-0.213	-0.112	-0.093	0.14
REL33	0.64	-0.035	0.165	0.142	0.038	0.109	0.026	0.185	0.095	0.022	0.01	-0.04	-0.018	-0.237	-0.163	-0.01	0.12
LISTEN1	-0.141	0.155	-0.058	0.015	0.015	0.104	-0.061	-0.018	-0.091	0.025	0.124	-0.054	0.077	0.002	0.69	0.027	0.025
LISTEN2	-0.131	0.253	-0.036	0.003	-0.019	0.112	0.014	-0.022	-0.093	-0.012	0.149	-0.125	0.068	-0.028	0.69	-0.04	-0.046
HUMAN1	0.399	0.033	0.241	0.088	0.055	0.143	0.095	0.164	0.052	0.16	-0.001	-0.052	0.075	0.017	0.046	0.65	-0.087
HUMAN2	0.192	0.225	0.134	0.135	0.164	0.142	0.176	0.159	0.021	0.202	-0.023	0.182	0.165	-0.047	-0.049	0.49	-0.081
HUMAN3	0.28	0.058	0.227	0.004	0.067	-0.036	0.047	-0.017	0.015	0.128	0.051	0.075	-0.058	0.029	-0.024	0.63	0.121
SOCIAL1	0.134	0.083	0.349	0.208	0.151	0.102	-0.045	0.104	0.44	0.156	0.11	-0.061	0.167	0.036	0.09	0.059	0.45
SOCIAL2	0.093	0.105	0.267	0.192	0.162	0.066	0.097	0.154	0.537	0.191	0.07	0.01	0.041	-0.017	0.051	0.11	0.42
SOCIAL3	0.11	0.189	0.326	0.088	0.105	0.086	-0.008	0.248	0.494	0.136	0.027	0.139	0.049	0.023	-0.076	0.128	0.45
TRUST1	-0.019	0.051	0.427	0.093	0.159	0.128	0.096	0.599	0.118	-0.096	0.184	0.014	0.183	0.61	0.006	-0.034	0.035
TRUST2	-0.082	0.077	0.406	0.11	0.193	0.101	0.089	0.659	0.083	-0.052	0.166	0.036	0.11	0.64	-0.002	-0.013	0.027
TRUST3	-0.058	0.036	0.35	-0.019	0.217	0.106	0.088	0.696	0.105	-0.005	0.084	0.1	0.036	0.7	-0.005	0.007	-0.039
HV1SD	-0.036	0.79	0.09	-0.082	-0.044	0.016	-0.009	0.002	-0.057	-0.068	0.02	0.029	-0.034	0.127	0.029	-0.074	-0.193
HV2PO	0.101	0.69	0.091	-0.134	-0.105	0.031	0.032	0.004	-0.043	-0.146	0.003	-0.004	-0.019	0.002	0.121	-0.11	-0.268
HV3UN	-0.023	0.85	0.01	-0.008	-0.039	0.009	-0.001	0.004	-0.045	-0.004	0.031	0.044	-0.015	0.005	-0.049	-0.016	-0.232
HV4AC	0.013	0.81	-0.023	-0.026	0	-0.012	0	-0.007	-0.052	-0.008	0.019	0.041	0.023	-0.043	-0.101	-0.094	-0.294
HV5SEC	0.012	0.82	-0.006	-0.024	-0.01	-0.043	0.089	-0.036	-0.019	0.018	-0.043	0.044	0.04	-0.033	-0.085	0.006	-0.18
HV6ST	0.065	0.79	0.041	0.014	-0.026	-0.048	0.062	-0.042	-0.033	-0.047	-0.038	0.056	0.026	-0.009	0.014	0.026	-0.078
HV7CO	0.015	0.82	-0.004	0.016	0.007	-0.005	-0.036	0.059	0.022	-0.021	0.085	-0.006	0.007	0.079	-0.017	0.103	0.14
HV8UN	0.028	0.83	0.014	0.08	0.076	-0.01	-0.023	0.103	-0.013	0.022	0.127	-0.053	0.016	0.16	-0.011	-0.023	0.165
HV9TR	0.008	0.82	0.019	0.062	0.06	-0.025	-0.041	0.125	-0.055	0.005	0.12	-0.083	0.033	0.115	-0.007	0.06	0.149
HV10HD	0.054	0.78	0.007	0.11	0.039	0.013	0.001	0.076	-0.02	-0.009	-0.012	0.028	0.044	0.123	0.045	-0.006	0.147
HV11SD	0.097	0.8	-0.049	0.091	-0.025	0.049	0.036	0.108	0.031	0.069	-0.003	-0.085	0.023	0.12	0.081	-0.012	0.1
HV12BE	0.059	0.82	-0.018	0.103	0.097	-0.005	0.051	0.035	-0.002	0.071	-0.036	-0.018	0.038	0.087	0.031	0.069	0.091
HV13AC	0.112	0.83	0.029	0.054	-0.002	0.025	0.039	-0.037	0.031	0.015	-0.045	0.006	-0.033	-0.05	0.035	-0.059	-0.092

Items/ Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
HV14SEC	0.031	0.83	0.034	0.053	-0.013	0.062	0.063	0.037	0.097	0.059	-0.043	0.156	-0.045	-0.11	0.035	-0.026	-0.079
HV15ST	0.099	0.73	0.15	-0.021	-0.016	-0.016	0.02	-0.02	0.086	-0.05	0.036	-0.037	-0.068	-0.018	0.198	-0.088	-0.07
HV16CO	0.045	0.83	0.125	0.067	-0.034	0.008	0.011	-0.055	0.072	0.006	-0.048	0.029	0.004	-0.127	0.042	0.034	-0.029
HV17PO	0.072	0.85	0.112	0.015	0.045	0.022	-0.022	-0.046	0.06	-0.025	-0.033	-0.007	0.008	-0.049	0.022	-0.006	-0.008
HV18BE	-0.001	0.81	0.089	0.067	0.028	0.019	-0.004	-0.017	0.115	0.035	-0.052	0.082	0.03	-0.1	0.005	0.071	0.075
HV19UN	0.03	0.82	-0.005	0.067	0.082	0.041	0.002	0.026	0.046	0.007	0.069	0.096	0.044	-0.069	-0.078	0.17	0.237
HV20TR	0.052	0.76	0.074	0.019	0.109	-0.009	0.026	-0.024	0.084	-0.028	0.011	0.056	0.118	-0.088	-0.09	0.248	0.283
HV21HD	0.026	0.69	0.076	0.026	0.051	-0.018	0.091	-0.091	0.107	-0.089	-0.064	0.163	0.077	-0.137	0.045	0.221	0.339

9.4.2 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was also selected to refine and validate the measurement scales. CFA was identified as an appropriate statistical test particularly because the researcher had a reasonably sound knowledge of the number of factors that were required to explain the inter-correlations among the measurement variables (Sureshchandar et al. 2002). According to Harrington (2008: 3), there are four reasons for conducting CFA: psychometric evaluation of measurement, construct validation, testing method effects and testing measurement invariance. The proposed model of this study is based on logic, theoretical finding, in this case the CFA approach is considered the most appropriate method to statistically confirm the proposed factors of customer intention to adopt Internet-only banks. The primary objective of performing a CFA in this study is to investigate the demonstration of the hypothesised model of obtained data (Al Hazmi, 2010: 137). CFA using SmartPLS 2.0 M3 (Ringle et al., 2005) was used to test the psychometric properties of the constructs. SmartPLS is a component-based path-modelling programme based on PLS. PLS modelling was applied to validate the constructs and to test the hypotheses. Reliability, convergent validity, and discriminants for the constructs were examined as follows.

9.4.2.1 Reliability

Reliability was used to evaluate the internal consistency of a construct. CFA analysis of PLS provides the values for Cronbach's alpha and composite reliability for each construct. Henseler et Fassott (2009: 299) stated that the composite reliability measure is more appropriate for use with PLS path models as it takes into account that the indicators have different loadings and the composite reliability measure can be interpreted in the same way as Cronbach's α . According to the composite reliability criterion, an internal consistency reliability value above 0.70 is satisfactory, while a value below 0.60 indicates a lack of reliability. This indicates that "*The absolute correlations between a construct and each of its manifest values should be higher than*

0.70” (Henseler & Fassott, 2009: 299). However, Hair et al. (2011) state that a composite reliability score of 0.60 to 0.70 can be acceptable in exploratory research. Tables 9-14 a, b, and c, d show that all scale constraints have a high internal consistency reliability value of above 0.70. Also tables 9-14 a, b, c and d show that all scales satisfy the reliability conditions with a composite reliability of more than 0.70. In addition, tables 9-14 a, b, c, and d show that the Cronbachs α s are above 0.60.

9.4.2.2 Validity

Two validity subtypes need to be examined. These are: the convergent validity, and discriminant validity. **The convergent validity** “*Signifies that a set of indicators represents one and the same underlying construct, which can be demonstrated through their unidimensionality*” (Chin, 1998: 299). Convergent validity can be examined through CFA within PLS modelling. The three criteria recommended by Fornell and Larcker (1981) for establishing convergent validity are: (1) all indicator factor loadings should be significant and exceed 0.70 so that over one half of the variance is captured by the latent construct (Gefen and Straub, 2005; Straub et al., 2004); (2) construct reliabilities should exceed 0.70; and (3) average variance extracted (AVE) by each construct should exceed 0.50.

As shown in tables (9-15 a, b, c, d) all the variables have $AVE > 0.50$. The tables also indicate that all items have significant sufficient loading in their constructs, which means that all items are sufficiently loaded to their latent construct. In the other hand, table 9-14s (a, b, c, d) indicate that some of the items have loading less than 0.70. By following Hair et al. (2011)’s instructions we decided to keep these indicators, as their loading is more than 0.40 and the deletion of such indicators will not add to the composite reliability of their constructs.

Table (9-14 a). The loading, CA, CR, AVE and t-value of each indictor within their construction

Factor	Indicator	Loading	t-value	CA	CR	AVE
Achievement	HV4AC	0.82***	8.13	0.80	0.89	0.81
	HV13AC	0.98***	11.90			
Benevolence	HV18BE	0.86***	15.86	0.78	0.90	0.81
	HV12BE	0.94***	18.79			
Conformity	HV16CO	0.93***	14.41	0.79	0.90	0.82
	HV7CO	0.88***	12.89			
Hedonism	HV21HD	0.89***	19.69	0.70	0.87	0.77
	HV10HD	0.87***	17.07			
Power	HV17PO	0.92***	13.85	0.71	0.87	0.77
	HV2PO	0.84***	8.78			
Self-direction	HV1SD	0.65**	2.98	0.75	0.82	0.71
	HV11SD	0.1***	5.48			
Security	HV5SEC	0.81***	4.80	0.83	0.90	0.81
	HV14SEC	0.99***	6.73			
Stimulation	HV15ST	0.96***	20.32	0.75	0.87	0.77
	HV6ST	0.79***	8.31			
Tradition	HV20TR	0.95***	43.97	0.78	0.89	0.81
	HV9TR	0.85***	18.77			
Universalism	HV3UN	0.75***	7.54	0.86	0.90	0.74
	HV8UN	0.90***	18.68			
	HV19UN	0.93***	19.26			
Attitude	ATT1	0.90***	103.80	0.82	0.90	0.74
	ATT2	0.92***	107.35			
	ATT3	0.75***	31.33			

*** p<0.01; ** p<0.05; * p<0.10; N/A = Do not apply.

Table (9-14 b). The loading, CA, CR, AVE and t-value of each indicator within their construction.

Factor	Indicator	Loading	t-value	CA	CR	AVE
Awareness (AWR)	AWR1	0.93***	122.46	0.90	0.94	0.84
	AWR2	0.93***	108.70			
	AWR3	0.89***	75.55			
Compatibility (COM)	COM1	0.91***	94.88	0.89	0.93	0.82
	COM2	0.92***	91.59			
	COM3	0.90***	70.77			
Perceived ease of use (PEOU)	PEOU 1	0.87***	71.15	0.84	0.90	0.68
	PEOU 2	0.84***	46.64			
	PEOU 3	0.86***	61.05			
	PEOU 4	0.73***	25.34			
Previous technological experience (EXP)	EXP1	0.91***	122.00	0.73	0.88	0.78
	EXP3	0.86***	52.75			
Human	HUMAN1	0.87***	79.15	0.70	0.83	0.62
	HUMAN2	0.76***	31.02			
	HUMAN3	0.74***	24.98			
Innovativeness (INNV)	INNOV1	0.86***	72.58	0.90	0.92	0.63
	INNOV2	0.73***	30.41			
	INNOV3	0.82***	47.04			
	INNOV4	0.83***	51.60			
	INNOV5	0.83***	57.37			
	INNOV6	0.80***	40.13			
	INNOV7	0.66***	20.61			
Behavioural Intention (BI)	IB1	0.91***	99.60	0.88	0.92	0.80
	IB2	0.91***	88.12			
	IB3	0.87***	65.32			
Observability (OBS)	OBS1	0.90***	86.55	0.79	0.88	0.71
	OBS 2	0.89***	66.52			
	OBS 3	0.73***	22.97			
*** p<0.01; ** p<0.05; * p<0.10; N/A = Do not apply						

Table (9-14 c). The loading, CA, CR, AVE and t-value of each indicator within their construction

Factor	Indicator	Loading	t-value	CA	CR	AVE
LISTEN	LISTEN1	0.96***	15.14	0.89	0.95	0.90
	LISTEN2	0.94***	16.58			
PRODUCT	PRODUCT	1.00	0.00	1.00	1.00	1.00
Perceived usefulness (PU)	PU1	0.84***	59.98	0.92	0.94	0.71
	PU2	0.86***	59.70			
	PU3	0.87***	73.54			
	PU4	0.84***	54.03			
	PU5	0.85***	55.33			
	PU6	0.79***	38.11			
Religiosity (REL)	REL1	0.75***	36.37	0.97	0.97	0.51
	REL2	0.81***	44.45			
	REL3	0.80***	41.30			
	REL4	0.80***	48.02			
	REL5	0.77***	37.55			
	REL6	0.75***	35.35			
	REL7	0.68***	27.77			
	REL8	0.66***	22.55			
	REL9	0.68***	23.59			
	REL10	0.74***	31.98			
	REL11	0.69***	25.55			
	REL12	0.72***	29.06			
	REL13	0.64***	21.81			
	REL14	0.69***	23.82			
	REL15	0.63***	21.03			
	REL16	0.71***	25.92			
	REL17	0.72***	27.09			
	REL18	0.69***	26.37			
	REL19	0.75***	33.79			
	REL20	0.72***	26.58			
	REL21	0.73***	27.65			
*** p<0.01; ** p<0.05; * p<0.10; N/A = Do not apply						

Table (9-14 d). The loading, CA, CR, AVE and t-value of each indicator within their construction

Factor	Indicator	Loading	t-value	CA	CR	AVE
	REL22	0.69***	24.89			
	REL23	0.70***	23.61			
	REL24	0.73***	30.91			
	REL26	0.69***	24.96			
	REL27	0.71***	26.56			
	REL28	0.70***	26.52			
	REL29	0.72***	29.66			
	REL30	0.74***	31.58			
	REL31	0.77***	38.90			
	REL32	0.69***	25.20			
	REL33	0.66***	20.55			
Perceived risk (RISK)	RISK1	0.87***	75.99	0.91	0.93	0.74
	RISK2	0.88***	82.83			
	RISK3	0.87***	72.68			
	RISK4	0.83***	46.72			
	RISK5	0.83***	43.42			
Social influence (SOCIAL)	SOCIAL1	0.88***	75.15	0.83	0.90	0.75
	SOCIAL2	0.88***	63.47			
	SOCIAL3	0.84***	43.03			
Triability (TRIAL)	TRIL1	0.82***	60.72	0.77	0.86	0.68
	TRIL2	0.84***	51.07			
	TRIL3	0.81***	36.02			
Perceived trust (TRUST)	TRUST1	0.92***	90.52	0.89	0.93	0.83
	TRUST2	0.93***	109.99			
	TRUST3	0.88***	56.98			
*** p<0.01; ** p<0.05; * p<0.10; N/A = Do not apply						

Another criterion used to test statistical measurement validity is **discriminant validity**. Chin (1998: 299) states “*discriminant validity is a rather complementary concept. Two conceptually different concepts should exhibit sufficient difference*”. For testing the discriminant validity of hypothesised scales, Gefen and Straub (2005) recommend two criteria: (1) the square root of AVE for a construct should be larger than

its corresponding inter-construct correlation coefficients (alternatively, each AVE should exceed the corresponding squared inter-correlations); and (2) the within-construct item loadings should exceed the inter-construct cross loadings by at least 0.10.

Tables 9-14 (a, b, c, d) show that most of the indicators have 0.70 loading or above in their construct, which refers to the discriminant validity in such scales. In regard to the attitude (ATT4), experience (EXP2), and awareness (AWE 4) variables, one indicator has been deleted from each construct because the indicator score was less than 0.40 in loading and the deletion of the indicator will add to both the AVE and composite reliability of the construct. Tables 9-15 shows that the loading of each indicator in its theoretical construct is higher than its loading with other constructs within the model.

On the other hand tables 9-16 show that the square root of AVE is larger than the correlation of any pair of latent constructions. And the square root of AVE of any construct is more than 0.50, which indicates high discriminant validity according to the AVE analysis.

Table (9-15a). Cross loading of items

	AC	BE	CO	HE	PO	SD	SEC	ST	TR	UN	ATT	AW	COM
ATT1	0.06	0.05	0.08	0.05	0.1	0.05	0.05	0.12	0.08	0.05	0.9	0.43	0.6
ATT2	0.09	0.09	0.1	0.1	0.15	0.07	0.09	0.13	0.11	0.09	0.92	0.46	0.58
ATT3	-0.12	-0.07	-0.1	-0.12	-0.1	-0.06	-0.11	-0.07	-0.08	-0.1	0.75	0.45	0.33
AWR1	0.07	0.07	0.06	0.08	0.09	0.09	0.08	0.1	0.07	0.07	0.53	0.91	0.47
AWR2	0.08	0.13	0.1	0.09	0.13	0.12	0.1	0.07	0.11	0.12	0.46	0.93	0.43
AWR3	0.07	0.06	0.05	0.06	0.08	0.04	0.09	0.04	0.09	0.08	0.39	0.88	0.4
COM1	0.04	0.07	0.1	0.11	0.12	0.07	0.07	0.14	0.11	0.09	0.56	0.44	0.92
COM2	0.06	0.07	0.09	0.1	0.13	0.07	0.06	0.11	0.13	0.09	0.54	0.43	0.93
COM3	0.08	0.07	0.1	0.1	0.11	0.04	0.09	0.15	0.1	0.09	0.54	0.45	0.89
EXP1	0.06	0.09	0.08	0.08	0.13	0.07	0.05	0.11	0.12	0.1	0.54	0.49	0.55
EXP3	0.08	0.11	0.08	0.09	0.12	0.05	0.1	0.14	0.11	0.11	0.45	0.34	0.41
HUMAN1	0.09	0.11	0.07	0.07	0.09	0.08	0.06	0.07	0.1	0.07	0.46	0.37	0.4
HUMAN2	0.24	0.29	0.23	0.25	0.22	0.17	0.28	0.17	0.26	0.26	0.3	0.32	0.32
HUMAN3	0.05	0.11	0.08	0.15	0.11	0.11	0.08	0.11	0.13	0.08	0.25	0.22	0.29
INNV1	0.11	0.17	0.13	0.17	0.19	0.13	0.14	0.15	0.16	0.13	0.59	0.48	0.64
INNV2	0.23	0.25	0.25	0.23	0.3	0.22	0.25	0.25	0.23	0.23	0.47	0.34	0.51
INNV3	0.12	0.17	0.19	0.18	0.2	0.14	0.16	0.17	0.17	0.15	0.54	0.44	0.61
INNV4	0.09	0.12	0.13	0.15	0.14	0.09	0.11	0.18	0.12	0.11	0.53	0.43	0.59
INNV5	0.12	0.14	0.12	0.14	0.13	0.11	0.12	0.18	0.13	0.12	0.5	0.41	0.54
INNV6	0.13	0.12	0.1	0.12	0.11	0.09	0.13	0.16	0.13	0.1	0.45	0.36	0.49
INNV7	0.1	0.09	0.06	0.13	0.08	0.07	0.11	0.08	0.1	0.08	0.38	0.3	0.34
BI1	0.01	0.07	0.05	0.09	0.05	0.03	0.05	0.07	0.12	0.07	0.56	0.45	0.58
BI2	0.09	0.13	0.1	0.2	0.1	0.09	0.13	0.11	0.17	0.15	0.46	0.4	0.5
BI3	0.08	0.15	0.1	0.17	0.12	0.1	0.08	0.11	0.19	0.17	0.5	0.36	0.49
REL1	0.12	0.16	0.1	0.12	0.13	0.13	0.11	0.11	0.14	0.14	0.49	0.45	0.43
REL10	0.13	0.13	0.1	0.11	0.12	0.1	0.08	0.16	0.13	0.09	0.41	0.25	0.35
REL11	0.11	0.08	0.1	0.09	0.09	0.09	0.09	0.13	0.09	0.08	0.32	0.23	0.28
REL12	0.06	0.04	0.01	0.03	0.06	0.07	0.05	0.05	0	0.02	0.33	0.29	0.31
REL13	0.16	0.17	0.15	0.17	0.14	0.14	0.18	0.14	0.16	0.17	0.23	0.24	0.24
REL14	-0.01	0.02	-0.01	0	0.01	0.03	-0.04	0.07	0.01	-0.01	0.35	0.25	0.29
REL15	0.09	0.11	0.08	0.11	0.1	0.1	0.09	0.11	0.09	0.09	0.29	0.22	0.25

Table (9-15b). Cross loading of items													
	AC	BE	CO	HE	PO	SD	SEC	ST	TR	UN	ATT	AW	COM
REL16	0.16	0.13	0.11	0.14	0.13	0.15	0.1	0.18	0.14	0.13	0.36	0.24	0.35
REL17	0.09	0.07	0.06	0.08	0.13	0.1	0.03	0.13	0.07	0.06	0.35	0.24	0.31
REL18	0.1	0.05	0.02	0.07	0.1	0.09	0.05	0.09	0.03	0.05	0.33	0.27	0.28
REL19	0.06	0.03	0.04	0.02	0.06	0.05	0.01	0.07	0.06	0.03	0.41	0.3	0.37
REL2	0.12	0.1	0.09	0.11	0.14	0.1	0.08	0.1	0.1	0.1	0.52	0.36	0.5
REL20	0.11	0.09	0.09	0.07	0.12	0.11	0.06	0.1	0.07	0.09	0.33	0.29	0.29
REL21	0.04	0.04	0.01	0.03	0.08	0.06	-0.01	0.06	0.04	0.01	0.37	0.21	0.32
REL22	0.14	0.08	0.11	0.08	0.12	0.08	0.08	0.11	0.11	0.06	0.42	0.28	0.4
REL23	0.15	0.11	0.13	0.11	0.17	0.12	0.1	0.16	0.14	0.09	0.39	0.24	0.38
REL24	0.1	0.07	0.1	0.09	0.16	0.12	0.1	0.15	0.11	0.07	0.42	0.26	0.4
REL25	0.35	0.35	0.32	0.34	0.3	0.25	0.35	0.26	0.34	0.36	0.18	0.22	0.21
REL26	0.05	0.01	0.02	0	0.05	0.02	-0.02	0.08	0.03	0	0.44	0.29	0.4
REL27	0.11	0.06	0.07	0.09	0.08	0.07	0.07	0.1	0.05	0.05	0.36	0.23	0.32
REL28	0.14	0.12	0.1	0.1	0.13	0.1	0.12	0.11	0.08	0.09	0.34	0.22	0.3
REL29	0.08	0.04	0.07	0.08	0.08	0.05	0.09	0.09	0.04	0.04	0.4	0.27	0.35
REL3	0.17	0.13	0.14	0.14	0.17	0.13	0.11	0.17	0.11	0.11	0.49	0.34	0.46
REL30	0.05	0.02	0.04	0.07	0.08	0.04	0	0.11	0.08	0.03	0.49	0.26	0.4
REL31	0.08	0.04	0.04	0.07	0.09	0.07	0.03	0.1	0.08	0.05	0.44	0.24	0.37
REL32	0.12	0.11	0.1	0.16	0.13	0.1	0.13	0.12	0.14	0.11	0.39	0.25	0.31
REL33	0.03	0.02	0.02	0.06	0.02	0.05	0.03	0.03	0.06	0.01	0.41	0.28	0.33
REL4	0.1	0.11	0.11	0.13	0.13	0.09	0.08	0.13	0.12	0.1	0.46	0.3	0.41
REL5	0.05	0.08	0.07	0.12	0.09	0.05	0.05	0.12	0.08	0.07	0.49	0.3	0.45
REL6	0.1	0.07	0.06	0.12	0.09	0.08	0.08	0.1	0.05	0.08	0.41	0.26	0.34
REL7	0.19	0.2	0.2	0.23	0.18	0.14	0.24	0.19	0.19	0.2	0.31	0.3	0.27
REL8	0.17	0.18	0.19	0.14	0.14	0.12	0.18	0.14	0.17	0.16	0.34	0.29	0.31
REL9	0.16	0.2	0.15	0.2	0.18	0.12	0.14	0.14	0.17	0.16	0.37	0.27	0.33
RISK1	0.09	0.11	0.1	0.13	0.07	0.1	0.04	0.11	0.11	0.11	0.36	0.11	0.34
RISK2	0.1	0.13	0.12	0.13	0.09	0.09	0.06	0.13	0.12	0.12	0.32	0.08	0.31
RISK3	0.15	0.25	0.2	0.21	0.11	0.14	0.17	0.14	0.21	0.22	0.24	0.05	0.25
RISK4	0.12	0.17	0.13	0.17	0.08	0.12	0.13	0.1	0.11	0.15	0.2	0.04	0.26
RISK5	0.15	0.17	0.14	0.16	0.06	0.11	0.15	0.11	0.12	0.15	0.17	0.01	0.23
SOCIAL1	0.12	0.17	0.13	0.15	0.13	0.13	0.11	0.17	0.15	0.14	0.5	0.37	0.5
SOCIAL2	0.14	0.19	0.17	0.13	0.15	0.12	0.17	0.14	0.16	0.17	0.44	0.32	0.46

Table (9-15c). Cross loading of items													
	AC	BE	CO	HE	PO	SD	SEC	ST	TR	UN	ATT	AW	COM
SOCIAL3	0.19	0.26	0.21	0.22	0.23	0.17	0.24	0.2	0.24	0.23	0.43	0.34	0.46
TRIL1	0.14	0.13	0.13	0.13	0.12	0.08	0.12	0.14	0.15	0.16	0.51	0.45	0.54
TRIL2	0.11	0.15	0.15	0.1	0.12	0.12	0.13	0.18	0.15	0.18	0.43	0.33	0.48
TRIL3	0.07	0.07	0.08	0.05	0.09	0.08	0.06	0.08	0.11	0.12	0.4	0.3	0.46
TRUST1	0.08	0.1	0.12	0.1	0.13	0.09	0.06	0.11	0.15	0.14	0.59	0.42	0.6
TRUST2	0.07	0.12	0.12	0.12	0.13	0.12	0.12	0.15	0.17	0.17	0.57	0.41	0.55
TRUST3	0.04	0.09	0.07	0.08	0.08	0.09	0.08	0.09	0.11	0.09	0.54	0.41	0.47
PU1	0.08	0.05	0.09	0.04	0.13	0.05	0.03	0.12	0.08	0.06	0.62	0.45	0.6
PU2	0.1	0.09	0.11	0.11	0.12	0.06	0.07	0.15	0.13	0.08	0.57	0.43	0.59
PU3	0.08	0.12	0.14	0.12	0.15	0.07	0.09	0.16	0.15	0.08	0.52	0.4	0.57
PU4	0.1	0.14	0.17	0.16	0.17	0.09	0.14	0.16	0.17	0.1	0.47	0.34	0.52
PU5	0.05	0.07	0.08	0.08	0.12	0.04	0.03	0.11	0.07	0.04	0.52	0.37	0.57
PU6	0.13	0.16	0.13	0.14	0.15	0.09	0.12	0.15	0.15	0.13	0.49	0.36	0.5
OBS1	0.04	0.06	0.07	0.07	0.07	0.02	0.04	0.06	0.09	0.07	0.37	0.28	0.36
OBS2	0.05	0.11	0.13	0.12	0.12	0.06	0.05	0.12	0.13	0.09	0.51	0.33	0.5
OBS3	0.01	0.02	0	0.03	0	0.01	-0.01	0	0.02	0.03	0.35	0.19	0.37
HV10HD	0.68	0.72	0.68	0.89	0.66	0.58	0.67	0.63	0.69	0.75	0.03	0.07	0.09
HV21hd	0.53	0.65	0.65	0.87	0.59	0.43	0.58	0.58	0.72	0.67	0.02	0.08	0.11
HV11SD	0.44	0.48	0.45	0.46	0.45	0.96	0.44	0.44	0.44	0.48	0.04	0.09	0.06
HV1SD	0.56	0.54	0.61	0.6	0.52	0.62	0.51	0.43	0.57	0.6	0	0.08	0.05
HV12BE	0.71	0.92	0.73	0.73	0.66	0.58	0.7	0.66	0.74	0.77	0.04	0.09	0.05
HV18BE	0.7	0.89	0.79	0.69	0.75	0.48	0.73	0.68	0.73	0.76	0.02	0.09	0.1
HV13AC	0.98	0.75	0.77	0.67	0.75	0.55	0.79	0.73	0.64	0.74	0.04	0.09	0.07
HV4AC	0.8	0.68	0.7	0.57	0.76	0.51	0.75	0.69	0.63	0.71	-0.03	0.03	0.03
HV14SEC	0.8	0.75	0.78	0.68	0.75	0.54	0.97	0.73	0.66	0.73	0.05	0.12	0.1
HV5SEC	0.75	0.71	0.72	0.63	0.72	0.52	0.87	0.71	0.67	0.72	-0.03	0.03	0.02
HV15ST	0.7	0.63	0.7	0.58	0.7	0.51	0.67	0.93	0.56	0.6	0.13	0.09	0.18
HV6ST	0.68	0.7	0.71	0.65	0.69	0.51	0.72	0.85	0.63	0.69	0	0.04	0.06
HV16CO	0.76	0.78	0.95	0.67	0.81	0.51	0.77	0.76	0.69	0.72	0.06	0.08	0.11
HV7CO	0.68	0.72	0.84	0.71	0.69	0.53	0.68	0.65	0.73	0.8	0.01	0.06	0.07
HV17PO	0.76	0.78	0.83	0.68	0.95	0.56	0.77	0.74	0.7	0.74	0.07	0.1	0.12
HV2PO	0.63	0.52	0.6	0.55	0.79	0.5	0.58	0.62	0.48	0.57	0.06	0.09	0.11
HV20TR	0.58	0.72	0.69	0.74	0.62	0.46	0.64	0.59	0.95	0.76	0.05	0.11	0.13

	AC	BE	CO	HE	PO	SD	SEC	ST	TR	UN	ATT	AW	COM
HV9TR	0.68	0.76	0.74	0.7	0.66	0.56	0.66	0.6	0.84	0.83	0.05	0.06	0.08
HV3UN	0.76	0.75	0.73	0.64	0.76	0.58	0.76	0.68	0.67	0.79	-0.03	0.05	0.05
HV8UN	0.68	0.76	0.75	0.7	0.67	0.56	0.66	0.64	0.77	0.91	0.04	0.08	0.09
HV19UN	0.69	0.75	0.73	0.77	0.67	0.51	0.69	0.61	0.8	0.91	0.03	0.11	0.09
PEOU1	0.13	0.15	0.11	0.16	0.11	0.07	0.09	0.13	0.17	0.13	0.56	0.43	0.56
PEOU2	0.16	0.22	0.17	0.2	0.18	0.12	0.17	0.18	0.22	0.17	0.45	0.35	0.44
PEOU3	0.02	0.08	0.07	0.09	0.09	0.07	0.02	0.06	0.1	0.08	0.53	0.41	0.45
PEOU4	-0.07	-0.01	-0.07	-0.01	-0.02	-0.02	-0.07	-0.06	0.01	-0.03	0.43	0.44	0.31

	PEOU	EXP	HUMAN	INN	BI	REL	RISK	Social	TRIA	TRUST	PU	OBS
ATT1	0.54	0.54	0.42	0.62	0.56	0.54	0.36	0.51	0.52	0.61	0.62	0.56
ATT2	0.55	0.54	0.39	0.59	0.5	0.49	0.3	0.49	0.5	0.59	0.6	0.51
ATT3	0.44	0.38	0.27	0.37	0.37	0.34	0.11	0.33	0.36	0.38	0.38	0.26
AWR1	0.49	0.49	0.41	0.51	0.45	0.39	0.11	0.39	0.46	0.44	0.5	0.36
AWR2	0.44	0.41	0.35	0.47	0.41	0.35	0.06	0.36	0.4	0.43	0.41	0.32
AWR3	0.4	0.4	0.28	0.37	0.36	0.29	-0.01	0.31	0.33	0.36	0.35	0.24
COM1	0.54	0.52	0.42	0.65	0.57	0.47	0.34	0.54	0.6	0.58	0.61	0.51
COM2	0.49	0.5	0.38	0.6	0.52	0.42	0.29	0.5	0.53	0.54	0.59	0.48
COM3	0.45	0.49	0.36	0.6	0.5	0.42	0.26	0.46	0.52	0.5	0.6	0.44
EXP1	0.59	0.91	0.41	0.63	0.5	0.49	0.3	0.47	0.48	0.5	0.64	0.5
EXP3	0.51	0.85	0.31	0.45	0.4	0.38	0.16	0.31	0.36	0.41	0.5	0.4
HUMAN1	0.41	0.37	0.87	0.48	0.36	0.53	0.3	0.47	0.42	0.43	0.43	0.34
HUMAN2	0.37	0.3	0.8	0.42	0.37	0.37	0.27	0.36	0.34	0.35	0.31	0.25
HUMAN3	0.3	0.32	0.73	0.35	0.3	0.39	0.21	0.31	0.31	0.28	0.32	0.29
INNV1	0.59	0.56	0.5	0.86	0.58	0.55	0.38	0.55	0.55	0.59	0.68	0.51
INNV2	0.46	0.45	0.47	0.72	0.47	0.48	0.37	0.48	0.49	0.47	0.61	0.45
INNV3	0.5	0.51	0.4	0.83	0.48	0.46	0.29	0.48	0.51	0.5	0.58	0.51
INNV4	0.5	0.52	0.4	0.84	0.5	0.49	0.31	0.47	0.51	0.49	0.57	0.54
INNV5	0.53	0.54	0.4	0.83	0.43	0.46	0.31	0.45	0.47	0.47	0.56	0.48
INNV6	0.52	0.5	0.38	0.8	0.42	0.46	0.31	0.43	0.46	0.47	0.54	0.45
INNV7	0.43	0.4	0.36	0.66	0.32	0.4	0.26	0.31	0.4	0.31	0.44	0.32
BI1	0.65	0.52	0.43	0.57	0.91	0.49	0.35	0.57	0.54	0.55	0.54	0.54

Table (9-15f). Cross loading of items												
	PEOU	EXP	HUMAN	INN	BI	REL	RISK	Social	TRIA	TRUST	PU	OBS
BI2	0.56	0.42	0.37	0.5	0.91	0.41	0.34	0.5	0.46	0.52	0.46	0.45
BI3	0.58	0.45	0.35	0.5	0.87	0.44	0.34	0.48	0.45	0.47	0.52	0.43
REL1	0.54	0.47	0.49	0.54	0.45	0.79	0.42	0.56	0.49	0.46	0.53	0.44
REL10	0.46	0.38	0.38	0.44	0.4	0.74	0.32	0.46	0.4	0.36	0.43	0.38
REL11	0.38	0.33	0.39	0.39	0.37	0.69	0.3	0.43	0.34	0.33	0.39	0.35
REL12	0.41	0.33	0.41	0.4	0.33	0.71	0.28	0.42	0.32	0.33	0.34	0.32
REL13	0.31	0.23	0.4	0.31	0.29	0.64	0.27	0.37	0.32	0.27	0.25	0.24
REL14	0.4	0.33	0.33	0.37	0.31	0.68	0.3	0.4	0.34	0.29	0.35	0.32
REL15	0.36	0.29	0.36	0.34	0.32	0.64	0.29	0.39	0.3	0.3	0.31	0.32
REL16	0.45	0.39	0.41	0.46	0.38	0.75	0.41	0.48	0.39	0.37	0.43	0.39
REL17	0.38	0.33	0.32	0.38	0.29	0.69	0.31	0.39	0.31	0.32	0.36	0.36
REL18	0.37	0.34	0.35	0.35	0.3	0.72	0.28	0.42	0.3	0.33	0.33	0.31
REL19	0.45	0.41	0.35	0.43	0.35	0.73	0.36	0.46	0.36	0.4	0.4	0.37
REL2	0.54	0.49	0.45	0.58	0.44	0.81	0.44	0.51	0.48	0.48	0.55	0.45
REL20	0.4	0.31	0.32	0.36	0.28	0.7	0.31	0.44	0.29	0.32	0.35	0.31
REL21	0.41	0.36	0.29	0.39	0.31	0.72	0.3	0.44	0.34	0.33	0.41	0.37
REL22	0.47	0.38	0.41	0.46	0.35	0.73	0.36	0.46	0.38	0.39	0.46	0.37
REL23	0.44	0.37	0.42	0.47	0.34	0.72	0.32	0.43	0.36	0.35	0.44	0.38
REL24	0.42	0.38	0.38	0.45	0.34	0.75	0.32	0.46	0.35	0.38	0.44	0.37
REL25	0.27	0.25	0.44	0.3	0.29	0.57	0.32	0.39	0.3	0.3	0.26	0.24
REL26	0.45	0.43	0.41	0.45	0.39	0.72	0.34	0.47	0.39	0.4	0.47	0.38
REL27	0.39	0.36	0.4	0.4	0.33	0.76	0.34	0.42	0.33	0.34	0.39	0.38
REL28	0.38	0.29	0.4	0.37	0.33	0.73	0.32	0.43	0.33	0.33	0.34	0.33
REL29	0.38	0.34	0.35	0.46	0.36	0.72	0.41	0.45	0.37	0.38	0.4	0.43
REL3	0.51	0.45	0.46	0.54	0.41	0.8	0.42	0.51	0.44	0.46	0.51	0.46
REL30	0.45	0.4	0.36	0.5	0.37	0.75	0.4	0.46	0.4	0.42	0.49	0.45
REL31	0.44	0.35	0.33	0.44	0.36	0.76	0.36	0.46	0.4	0.39	0.44	0.41
REL32	0.39	0.31	0.33	0.4	0.32	0.72	0.36	0.41	0.35	0.36	0.34	0.37
REL33	0.41	0.33	0.34	0.4	0.35	0.69	0.36	0.44	0.37	0.4	0.4	0.37
REL4	0.49	0.44	0.45	0.5	0.4	0.82	0.43	0.5	0.43	0.43	0.47	0.42
REL5	0.46	0.45	0.44	0.49	0.42	0.77	0.4	0.48	0.41	0.46	0.47	0.4
REL6	0.43	0.37	0.44	0.45	0.37	0.77	0.36	0.45	0.38	0.37	0.42	0.37

Table (9-15j). Cross loading of items

	PEOU	EXP	HUMAN	INN	BI	REL	RISK	Social	TRIA	TRUST	PU	OBS
REL7	0.36	0.27	0.42	0.39	0.39	0.68	0.32	0.4	0.35	0.33	0.28	0.29
REL8	0.38	0.26	0.39	0.38	0.38	0.66	0.41	0.46	0.36	0.3	0.33	0.33
REL9	0.44	0.38	0.43	0.43	0.41	0.69	0.36	0.45	0.36	0.38	0.39	0.35
RISK1	0.36	0.29	0.33	0.41	0.37	0.52	0.86	0.42	0.38	0.34	0.41	0.35
RISK2	0.38	0.3	0.3	0.39	0.33	0.46	0.88	0.41	0.37	0.3	0.4	0.35
RISK3	0.3	0.2	0.29	0.33	0.35	0.41	0.88	0.4	0.34	0.25	0.3	0.25
RISK4	0.27	0.19	0.25	0.31	0.29	0.35	0.84	0.35	0.31	0.23	0.29	0.24
RISK5	0.23	0.17	0.21	0.27	0.28	0.32	0.83	0.3	0.29	0.21	0.24	0.22
SOCIAL1	0.53	0.43	0.45	0.53	0.54	0.6	0.44	0.88	0.52	0.49	0.54	0.53
SOCIAL2	0.49	0.39	0.37	0.51	0.48	0.52	0.4	0.88	0.47	0.46	0.47	0.48
SOCIAL3	0.45	0.37	0.41	0.46	0.48	0.5	0.31	0.85	0.46	0.47	0.48	0.46
TRIL1	0.49	0.48	0.48	0.55	0.5	0.43	0.26	0.51	0.82	0.49	0.52	0.45
TRIL2	0.38	0.36	0.34	0.5	0.42	0.43	0.37	0.43	0.84	0.46	0.43	0.42
TRIL3	0.36	0.34	0.27	0.46	0.41	0.41	0.37	0.43	0.82	0.41	0.39	0.41
TRUST1	0.54	0.5	0.45	0.59	0.55	0.49	0.32	0.51	0.54	0.92	0.58	0.48
TRUST2	0.54	0.5	0.41	0.56	0.53	0.48	0.33	0.52	0.52	0.94	0.56	0.44
TRUST3	0.51	0.43	0.35	0.49	0.49	0.42	0.2	0.46	0.43	0.88	0.49	0.41
PU1	0.57	0.61	0.42	0.63	0.49	0.54	0.36	0.5	0.49	0.54	0.84	0.49
PU2	0.52	0.58	0.41	0.61	0.49	0.46	0.33	0.52	0.47	0.53	0.86	0.49
PU3	0.52	0.54	0.4	0.61	0.47	0.46	0.3	0.5	0.47	0.49	0.87	0.5
PU4	0.5	0.51	0.38	0.58	0.45	0.46	0.35	0.49	0.41	0.46	0.84	0.46
PU5	0.49	0.57	0.35	0.62	0.47	0.48	0.31	0.45	0.47	0.54	0.85	0.45
PU6	0.49	0.52	0.31	0.59	0.49	0.44	0.32	0.45	0.45	0.48	0.81	0.43
OBS1	0.43	0.39	0.29	0.39	0.36	0.35	0.18	0.34	0.29	0.3	0.4	0.74
OBS2	0.51	0.5	0.35	0.58	0.48	0.48	0.31	0.53	0.51	0.48	0.54	0.88
OBS3	0.36	0.31	0.22	0.4	0.41	0.36	0.3	0.45	0.41	0.35	0.35	0.75
HV10HD	0.11	0.08	0.18	0.16	0.14	0.14	0.19	0.16	0.11	0.12	0.1	0.07
HV21hd	0.13	0.09	0.15	0.19	0.16	0.12	0.13	0.17	0.09	0.07	0.12	0.11
HV11SD	0.08	0.05	0.14	0.13	0.08	0.14	0.15	0.15	0.11	0.11	0.06	0.06
HV1SD	0.01	0.06	0.09	0.14	0.03	0.05	0.02	0.11	0.07	0.07	0.09	-0.01
HV12BE	0.14	0.1	0.19	0.17	0.12	0.14	0.18	0.21	0.12	0.09	0.09	0.05
HV18BE	0.11	0.11	0.19	0.17	0.12	0.11	0.16	0.22	0.14	0.12	0.14	0.11
HV13AC	0.1	0.09	0.16	0.18	0.07	0.18	0.16	0.18	0.14	0.08	0.12	0.07
HV4AC	0	0.02	0.13	0.08	0.03	0.06	0.05	0.09	0.07	0.04	0.03	-0.05

Table (9-15h). Cross loading of items												
	PEOU	EXP	HUMAN	INN	BI	REL	RISK	Social	TRIA	TRUST	PU	OBS
HV14SEC	0.08	0.09	0.17	0.19	0.13	0.14	0.14	0.22	0.15	0.12	0.11	0.06
HV5SEC	0.03	0.04	0.14	0.12	0	0.07	0.06	0.12	0.06	0.02	0.04	-0.03
HV15ST	0.11	0.16	0.13	0.23	0.13	0.17	0.12	0.2	0.18	0.16	0.19	0.13
HV6ST	0.05	0.07	0.14	0.14	0.04	0.12	0.12	0.14	0.09	0.06	0.08	0
HV16CO	0.1	0.11	0.17	0.2	0.08	0.14	0.17	0.2	0.14	0.1	0.17	0.1
HV7CO	0.05	0.04	0.1	0.11	0.08	0.08	0.11	0.15	0.11	0.1	0.06	0.06
HV17PO	0.13	0.16	0.18	0.2	0.12	0.16	0.14	0.21	0.15	0.12	0.16	0.11
HV2PO	0.04	0.05	0.11	0.17	0.01	0.12	0	0.1	0.07	0.09	0.12	0.02
HV20TR	0.17	0.13	0.2	0.2	0.2	0.15	0.14	0.21	0.15	0.14	0.15	0.11
HV9TR	0.09	0.1	0.15	0.14	0.09	0.09	0.15	0.15	0.15	0.15	0.09	0.07
HV3UN	-0.01	0.03	0.09	0.1	0.01	0.04	0.07	0.1	0.08	0.04	0.04	-0.04
HV8UN	0.12	0.13	0.15	0.17	0.12	0.12	0.18	0.19	0.18	0.16	0.1	0.11
HV19UN	0.11	0.1	0.17	0.15	0.17	0.13	0.16	0.2	0.18	0.13	0.09	0.09
PEOU1	0.87	0.58	0.43	0.6	0.64	0.55	0.37	0.53	0.5	0.58	0.57	0.54
PEOU2	0.85	0.51	0.42	0.55	0.54	0.5	0.38	0.5	0.42	0.48	0.49	0.46
PEOU3	0.86	0.56	0.34	0.54	0.55	0.51	0.28	0.47	0.43	0.49	0.54	0.46
PEOU4	0.73	0.42	0.31	0.39	0.45	0.37	0.14	0.36	0.3	0.38	0.4	0.35

81 Table (9-16a). The square root of AVE compared with the correlation of the pair of latent constructions

	AC	BE	CO	HD	PO	SD	SEC	ST	TR	UN	ATT	AWR	LISTEN
AC	0.9												
BE	0.78	0.91											
CO	0.8	0.84	0.9										
HD	0.69	0.78	0.75	0.88									
PO	0.8	0.77	0.84	0.71	0.87								
SD	0.57	0.59	0.57	0.58	0.6	0.81							
SEC	0.84	0.79	0.81	0.71	0.79	0.57	0.92						
ST	0.77	0.74	0.79	0.68	0.78	0.57	0.77	0.89					
TR	0.68	0.81	0.77	0.8	0.7	0.54	0.71	0.66	0.9				
UN	0.78	0.85	0.83	0.81	0.77	0.61	0.77	0.71	0.86	0.87			
ATT	0.03	0.04	0.05	0.02	0.07	0.04	0.02	0.08	0.05	0.03	0.86		
AWR	0.08	0.1	0.08	0.09	0.11	0.1	0.1	0.08	0.1	0.1	0.52	0.91	
LISTEN	0.07	0.08	0.1	0.11	0.13	0.07	0.08	0.15	0.12	0.1	0.6	0.48	0.91
PEOU	0.08	0.14	0.09	0.14	0.11	0.08	0.07	0.1	0.16	0.11	0.6	0.49	0.54
EXP	0.08	0.11	0.09	0.1	0.14	0.06	0.08	0.14	0.13	0.12	0.57	0.48	0.55
HUMAN	0.16	0.21	0.16	0.19	0.17	0.14	0.17	0.15	0.2	0.17	0.43	0.39	0.42
INNV	0.16	0.19	0.18	0.2	0.21	0.15	0.18	0.21	0.19	0.17	0.62	0.5	0.68
BI	0.06	0.13	0.09	0.17	0.09	0.08	0.1	0.1	0.18	0.14	0.56	0.45	0.58
REL	0.16	0.14	0.13	0.15	0.16	0.13	0.12	0.17	0.14	0.12	0.54	0.38	0.48
RISK	0.14	0.19	0.16	0.18	0.1	0.13	0.12	0.14	0.16	0.17	0.31	0.07	0.33
SOCIAL	0.17	0.24	0.2	0.19	0.19	0.16	0.2	0.2	0.21	0.2	0.53	0.39	0.55
TRAIL	0.13	0.14	0.14	0.12	0.14	0.11	0.13	0.16	0.17	0.19	0.54	0.44	0.6
TRUST	0.07	0.11	0.11	0.11	0.13	0.11	0.09	0.13	0.15	0.15	0.62	0.45	0.59
PU	0.1	0.12	0.14	0.13	0.16	0.08	0.09	0.17	0.14	0.1	0.63	0.47	0.66
OBS	0.04	0.09	0.09	0.1	0.09	0.04	0.04	0.08	0.11	0.09	0.53	0.34	0.53

82 Table (9-16b). The square root of AVE compared with the correlation of the pair of latent constructions

	PEOU	EXP	HUMAN	INNV	BI	REL	RISK	SOCIAL	TRAIL	TRUST	PU	OBS
AC												
BE												
CO												
HD												
PO												
SD												
SEC												
ST												
TR												
UN												
ATT												
AWR												
LISTEN												
PEOU	0.83											
EXP	0.63	0.88										
HUMAN	0.46	0.42	0.8									
INNV	0.64	0.63	0.52	0.8								
BI	0.66	0.52	0.43	0.58	0.9							
REL	0.58	0.5	0.54	0.6	0.5	0.72						
RISK	0.36	0.27	0.33	0.4	0.38	0.49	0.86					
SOCIAL	0.57	0.46	0.48	0.58	0.58	0.62	0.44	0.87				
TRAIL	0.5	0.49	0.45	0.61	0.54	0.51	0.39	0.56	0.83			
TRUST	0.59	0.52	0.45	0.6	0.57	0.51	0.31	0.54	0.55	0.91		
PU	0.61	0.66	0.45	0.72	0.56	0.56	0.39	0.57	0.54	0.6	0.85	
OBS	0.55	0.52	0.36	0.59	0.53	0.51	0.33	0.56	0.52	0.49	0.55	0.79

9.4.2.3 Model fit

After conducting the reliability and validity test for all the critical factors, it is also necessary to demonstrate the overall fit of the measurement model which was determined by CFA, and was extremely important in that all possible factors were nested appropriately within it (Ho, 2000). According to Chin (1998), one of the features of PLS path modelling is it does not provide any global goodness of fit. Therefore, for the purpose of calculating the model fit criterion, the researcher utilised the AMOS programme.

Obtaining a poor fit at this stage would require a further refinement of the measurement model (Anderson & Gerbing, 1988). To evaluate the measurement model in this study it is necessary to use a variety of “goodness of fit” indices (Byrne, 2004). Accordingly, the assessment of the model fit in this assignment will be based on multiple criteria; the Normed X^2 or X^2 /df ratio, the root mean square error of approximation RMSEA, the comparative fit index CFI, Normed Fit Index (NFI) (Hair et al., 2006, Byrne 2004, Holmes-Smith 2001).

Table (9-17). The acceptable fit criteria and the intended behavioural model and those of proposed model

Goodness of fit indices	Fit criteria *	This study model
CMIN/DF	≤ 3.00	2.690
GFI	≥ 0.9	0.89
AGFI	≥ 0.80	0.81
RMSEA	≤ 0.06 or ≤ 0.08	.051
CFI	$= 0.90$	0.89
NFI	≥ 0.90	0.88
* Adapted from Hair et al (2006), Byrne (2004), Holmes-Smith (2001), Schumaker and Lomax (1996), Baumgartner and Homburg (1996).		

As seen in table (9-17), the X^2 / df rate is acceptable with a value of 2.690, but CFI (0.89) is lower than the acceptable score which is >0.9 ; RMSEA value is 0.051 which is ≤ 0.08 ; and AGFI (0.81), NFI (0.88) and GFI (0.89) scores are less than the recommended fit criteria. Hence, the model showed signs of misfit and needed some readjustment. However, as has been discussed in section 1.6 of this thesis the goal of this study is rather exploratory rather than theory testing, therefore, data-model fit is not a priority for this research.

9.5 Rationale for selecting SEM with PLS approach compared to CB-SEM approach

The analysis of the model (figure 9-1) in this research is based on SEM, which many researchers (Chin, 1998; Hair et al., 2011) consider a comprehensive statistical approach for testing hypotheses about relationships between variables. SEM is very useful in a situation in which a dependent variable becomes an independent variable in the model (Tabachnick & Fidell, 2000). SEM has retained a good reputation in the field of marketing (Hair et al., 2011; Hulland, 1999), and can be conducted through several software packages (e.g., AMOS, EQS, LISREL, and SmartPLS).

Before evaluating the conceptual model it is important to highlight the significant rationales for adopting component-based or variance-based techniques to analyse the data. The primary objective of covariance-based (CB-SEM) is to show that measurement items extracted from the theory being examined are supported by the data (Jöreskog, 2001). The data sample within CB-SEM needs to be large, and is assumed to be multivariate normal to achieve the goodness of fit (e.g., CFI, REMSE, and GFA) (Hair et al., 2006). On the other hand, component-based techniques, such as PLS, apply Ordinary Least Squares (OLS) as an estimation method to explain the total variance (Gefen et al., 2000). PLS applies an iterative sequence of OLS to analyse one construct at time in such way that minimise the residual variance of all the dependent variables in the structural model until the difference in the average R^2 of the construct becomes insignificant, so that consequently it is less susceptible to the sample size and

multivariate normal distribution requirement (Chin, 1998; Gefen et al., 2000). Hair et al. (2011), describe situations where it is preferable to use PLS-SEM. Table 9-18 compares PLS-SEM with CB-SEM.

Table (9- 18). Rules of thumb for selecting CB-SEM or PLS-SEM, adapted

	PLS-SEM	CB-SEM
Research goal:	<ul style="list-style-type: none"> • If the goal is predicting key targeted constructs or identifying key ‘driver’ constructs. • If the research is exploratory or an extension of existing structural theory. 	If the goal is theory testing, theory conformation, or comparison of alternative theories.
Measurement model specification.	If formative constructs are part of the structural model.	If error terms require additional specification.
Structural model.	If the structural model is complex.	If the model is not recursive.
Data characteristics and algorithm.	<ul style="list-style-type: none"> • If the data did not meet the CB-SEM assumptions. • If the sample size is relatively low. • If the data are to some extent not normal. 	<ul style="list-style-type: none"> • If the data meets CB-SEM assumptions exactly.
Model evaluation.	If there is a need to use the latent variable score for subsequent analysis.	<ul style="list-style-type: none"> • If the research requires a global goodness –of fit criterion. • If you need to test for measurement model invariance.
Source: Hair et al. (2011: 144).		

In the current study, the rationales for using component-based SEM, specifically PLS, are: first, it is widely accepted and used in recent diversified literature (e.g., Reinartz et al. 2004; Fornell & Robinson, 1983; Eggert, 2007; Henseler & Fassott, 2009). PLS is considered by as a silver bullet. PLS has been used in different fields of business studies such as marketing (Reinartz et al. 2004), and consumer behaviour (Fornell & Robinson, 1983). Since 1987, of the published studies in the five top marketing journals, more than 20 have used PLS as their statistical analysis technique (Eggert, 2007). PLS has gained a good reputation within the field of marketing discipline in the last few years. In his review of four major marketing journals (the International Journal of Research in Marketing the Journal of Marketing, the Journal of Marketing Research, and the Journal of Consumer Research) between 1977 and 1994,

Baumgartner and Homburg (1996) found that the use of SEM in marketing researches has increased fairly steadily over the years, and that most studies have used cross-sectional data. Several reasons have been mentioned by researchers in international marketing research to justify their choice of PLS, while Henseler & Fassott (2009: 238) summarise these reasons as follows:

PLS delivers latent variable scores, i.e. proxies of the constructs, which are measured by one or several indicators (manifest variables), PLS path modelling avoids small sample size problems and can therefore be applied in some situations when other methods cannot, PLS path modelling can estimate very complex models with many latent and manifest variables, PLS path modelling has less stringent assumptions about the distribution of variables and error terms, and PLS can handle both reflective and formative measurement models.

The second reason for adopting PLS is the sample size. Although the overall sample size obtained for this study (653 cases) is enough to justify the use of CB-SEM (e.g., AMOS), it is still not enough to examine the moderation effect using invariance analysis (Hair et al., 2006). In PLS, the sample size was not an obstacle to the analysis as one of the features of PLS as it makes minimal demands on sample size, measurement scales and residual distribution. In fact, the sample size could be equal to the larger of the following, “*ten times the scale with the largest number of formative indicators*”, or “*ten times the largest number of structural paths directed at a particular construct in the structural model*” (Chin, 1997). As Jöreskog & Yang (1996) state, PLS path modelling has a good reputation for estimating large numbers of variables and indicators with a small sample size. PLS is a useful statistical tool as it is robust with a small sample size (Green & Ryans, 1990; Johansson & Yip, 1994), and places “*less stress on assumptions about the randomness of the sample and the normality of the distribution of variables*” (Julien & Ramangalahy, 2003: 587). Therefore, applying PLS is best option for the current study.

The third reason to use PLS method for this study is the complexity of the current study model. According to (Fornell et al.,1990; Fornell & Bookstein, 1982), PLS is a sound choice for explaining complex relations. As stated by Wold (1985: 589), “*PLS comes to the fore in larger models, when the importance shifts from individual variables and parameters to packages of variables and aggregate parameters*”. Wold (1985: 590) also stated, “*In large, complex models with latent variables PLS is virtually without competition*”. A complex model can be defined as those models with many latent variables and indicators. A model with 10 or more variables and 50 items is considered to be a complex model (Chin, 2010). The proposed model for the quantitative study of this thesis (figure 9-1) consists of 21 variables (see table 8-5), and represent interactive relationships between the variables, which make it impossible to use CB-SEM due to the complexity of the model. In some cases, the covariance-based structure equation modelling may not be the suitable choice, as in the case of large complex models “*due to the algorithmic nature requiring inverting of matrices*” (Chin 2010: 661). In contrast, PLS path modelling is widely used to estimate large complex models because it can remove the uncertainty of improper solutions. “*The PLS approach to SEM, also known as component-based SEM, is becoming more prominent for estimating large complex models due to its soft modeling assumptions. This ‘soft modeling’ refers to the greater flexibility of PLS technique in developing and validating the complex models*” (Akter, 2011: 1).

The fourth reason to use the PLS method for this study is the nature of the study. PLS is suitable for exploratory studies (Ainuddin et al., 2007; Tsang, 2002; Venaik et al., 2005), this research is more interested in predicting the Muslim consumer’s acceptance of technologies than testing a well-established theory of consumers’ acceptance of technology. When the object of the study is prediction, the model is complex, the sample size is small, and the study is new or changing, the PLS path modelling provides the researcher with robust solutions (Chin & Newsted, 1999). Moreover, PLS is recommended in the early stages of theory development (Julien & Ramangalahy, 2003; Ainuddin et al., 2007). It is also more useful where the nature of

the research is more exploratory (Venaik et al., 2005) and when “*the theoretical model and its measures are not well formed*” (Tsang, 2002: 841).

9.6 Structural equation modelling- PLS analysis

As first step on structural model evaluation using SEM-PLS researcher should assess structural model for collinearity issues (Hair et al., 2014). In assessing collinearity researcher often uses VIF. Researcher needs to check if there are significant levels of collinearity between each set of predictor variables (Hair et al., 2014: 170). A tolerance level below 0.20 and VIF above 5 is considered as indicative of collinearity in the predictor constructs (Hair et al., 2014: 170). Tolerance level and VIF were calculated using IBM SPSS statistics regression modules. Table (9-19) indicated that the tolerance level and VIF are within the acceptable level, which mean the model is suitable for further evaluation without any modification in construct.

Table (9-19). The tolerance level and VIF of the structural model

Model		Unstandardised coefficients		Standardised coefficients	T	Sig.	Collinearity statistics	
		B	Std. Error	Beta			Tolerance	VIF
1.00	(Constant)	0.00	0.03		0.00	1.00		
	AC	-0.07	0.06	-0.07	-1.19	0.24	0.21	4.73
	BE	-0.03	0.06	-0.03	-0.46	0.65	0.20	3.26
	CO	-0.18	0.06	-0.18	-2.93	0.00	0.26	4.66
	HD	0.08	0.05	0.08	1.54	0.13	0.26	3.78
	PO	-0.03	0.05	-0.03	-0.48	0.63	0.23	4.40
	SD	-0.07	0.05	-0.07	-1.47	0.14	0.32	3.15
	SEC	0.11	0.05	0.11	2.05	0.04	0.23	4.27
	ST	0.01	0.05	0.01	0.29	0.77	0.31	3.26
	TR	0.07	0.06	0.07	1.29	0.20	0.21	4.81
	UN	0.15	0.07	0.15	2.26	0.02	0.10	3.29
	ATT	0.06	0.04	0.06	1.42	0.16	0.41	2.47
	AWR	0.07	0.03	0.07	2.07	0.04	0.57	1.76
	COM	0.14	0.04	0.14	3.35	0.00	0.41	2.46
	PEOU	0.28	0.04	0.28	6.75	0.00	0.40	2.51
	EXP	0.01	0.04	0.01	0.31	0.76	0.46	2.17
	HUMAN	-0.02	0.03	-0.02	-0.51	0.61	0.60	1.67
	INNV	0.00	0.05	0.00	-0.02	0.98	0.32	3.14
	LISTEN	0.05	0.04	0.05	1.36	0.17	0.46	2.20
	OBS	0.12	0.04	0.12	2.99	0.00	0.41	2.44
	PRODUCT	-0.04	0.03	-0.04	-1.53	0.13	0.88	1.13
	REL	-0.04	0.04	-0.04	-0.99	0.32	0.41	2.42
	RISK	0.07	0.03	0.07	2.03	0.04	0.63	1.59
	SOCIAL	0.12	0.04	0.12	2.96	0.00	0.42	2.38
	TRAIL	0.04	0.04	0.04	1.12	0.27	0.46	2.20
	TRUST	0.09	0.04	0.09	2.32	0.02	0.47	2.11

A dependent variable: behavioural intention

In regards to structural measurements and structural model evaluation using PLS-SEM table, 9-20 illustrates the evaluation criterion. In evaluating models using PLS-SEM there is a systematic two-step process to assess the partial model structure (Chin, 1998). The two-step processes contain (1) the assessment of the outer model ‘*structural measurement*’ and (2) the assessment of the inner model’s ‘*structural model*’.

These ‘systematic evaluation of PLS estimates reveals the measurement reliability and valid it’ (Henseler & Fassott, 2009: 298). Therefore to assess the relative measurement models it should start with a reliability and validity assessment.

Table (9-20). Rules of thumb for reflective model evaluation

Reflective measurement models:	
Reliability:	
Internal consistency reliability:	Composite reliability should be higher than 0.70 (in exploratory research, 0.60 to 0.70 is considered acceptable). (Hair et al., 2011).
Indicators reliability:	Indicators loading should be higher than 0.70.
Validity:	
Convergent validity:	The average variance extracted (AVE) should be higher than 0.50.
Discriminant validity:	<ul style="list-style-type: none"> • The AVE of each latent construct should higher than the construct’s highest correlation with any other latent construct. • An indicator’s loading should be higher than all of its cross loadings.
Structural model:	
R ² :	Values of 0.75, 0.50, or 0.25 for endogenous latent variables in the structural model can be described as substantial, moderate, or weak, respectively (Hair et al., 2011). Values of 0.67, 0.33, or 0.19 are described as substantial, moderate, or weak (Henseler & Fassott, 2009).
Bootstrapping:	Use bootstrapping to assess the path coefficient’s significance. The minimum number of bootstrap samples is 5000, and the number of cases should be equal to the number of observations in the original sample (Hair et al., 2011).
Predictive relevance:	Use blindfolding to obtain cross-validated redundancy measures for each construct. Resulting The Q ² is calculated based on the blindfolding procedure: $Q^2 = 1 - SSE_D / SSO_D$ (Henseler & Fassott, 2009). Q ² values of larger than zero indicate that the exogenous constructs have predictive relevance for the endogenous constructs under consideration (Hair et al., 2011). $q^2 = (Q^2 \text{ included} - Q^2 \text{ excluded}) / (1 - Q^2 \text{ included})$ (Henseler & Fassott, 2009).
Effect size f ²	$F^2 = (R^2 \text{ included} - R^2 \text{ excluded}) / (1 - R^2 \text{ included})$. Values of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level (Henseler & Fassott, 2009).
Source: Hair et al. (2011: 145) and Henseler & Fassott (2009).	

This section continues with discussing the evaluation process of the structural model, this is followed with presenting and discussing the results of PLS analysis, the section is then concluded with discussions of the results of the moderating and the mediating analysis.

9.6.1 Evaluating the structural model

According to Hair et al. (2011), R^2 and the significance of path coefficients are the primary criteria for assessing the structure model. Table 9-20 shows that the structural model can be evaluated through the assessment of R^2 , Q^2 , f^2 and q^2 . R^2 refers to the explained variance of the endogenous constructs, where R^2 results of 0.20 are considered high in consumer behaviour studies. R^2 values for endogenous latent variables of 0.75, 0.50, and 0.25 are considered substantial, moderate, and weak respectively in marketing research studies (Hair et al., 2011). However, Chin (1998: 323) mentions that the R^2 values of 0.67, 0.33, or 0.19 for endogenous latent variables in the inner path model can be described as substantial, moderate, or weak. Another evaluation method is the model's capability to predict Q^2 . According to Chin (1998) and Hair et al. (2011), Q^2 should be > 0 for all endogenous latent variables. Q^2 can be obtained through blindfolding; and by using the SmartPLS M3 Beta programme with 7-omission distance we were able to obtain cross-validated redundancy and cross-validated communality of all latent variables that had been calculated (appendix C-8).

On the other hand, f^2 refers to the effect size: “Values of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level” (Henseler & Fassott, 2009: 303). f^2 is calculated as follows: $f^2 = R^2(\text{included}) - R^2(\text{excluded}) / 1 - R^2(\text{included})$.

As discussed in section 9.4.2.3, PLS-SEM did not provide sufficient criteria to assess the goodness of fit. But Tenenhaus et al. (2005) proposed the GOF as indicator for the overall predictability of the model. “Goodness of Fit (GOF) index is defined as the geometric mean of the average communality and average R^2 for all endogenous constructs. It can be used to determine the overall prediction power of the large complex

model by accounting for the performance of both measurement and structural parameters” (Akter et al., 2011: 4). According to these authors GOF can be calculated as follows: $GOF = \sqrt{\text{geometric mean of communalities} * \text{average of } R^2}$. But one should be aware that researchers do not consider GOF a reliable indicator for model goodness (Hair et al., 2014). Moreover, q^2 reflects the overall predictability of variables within the model for the predicted intention. q^2 is calculated as follows: $q^2 = \frac{Q^2(\text{included}) - Q^2(\text{excluded})}{1 - Q^2(\text{included})}$.

The results of applying the rules illustrated in table (9-20) to the model on hand are presented in tables 9-21 a and 9-21 b. Tables 9-21 a and 9-21b present the results of R^2 , Q^2 , CR and AVE for the model being studied with the introduction of the moderating effects of human values on the relationship between attitude and intention, the moderating effect of willingness to accept religious leaders advice on the relationship between personal religiosity and attitude, the moderating effect of the importance the Muslim consumers give to obtaining Islamic banking through the Internet-only banks, and on the relationship between personal religiosity and attitude. Tables 9-21a and 9-21b also present the results R^2 , Q^2 , AVE, and CR without the introduction of the moderating effects. The reason for presenting the results of the two different cases is to compare those results and to find out if there are influences of the moderating effects on the predictability of the model being studied.

Table 9-21a shows that the R^2 for each of the ten human values are as follows: achievement ($R^2 = 0.02$); benevolence ($R^2 = 0.02$); conformity ($R^2 = 0.01$); hedonism ($R^2 = 0.01$); power ($R^2 = 0.02$); self-direction ($R^2 = 0.02$); security ($R^2 = 0.01$); stimulation ($R^2 = 0.03$); tradition ($R^2 = 0.02$); universalism ($R^2 = 0.01$). According to Chin (1998) R^2 scores of 0.19 or less are considered weak, and so the R^2 for human values in this model are weak. This weak result of R^2 indicates that little of the variance of the human values has been explained by the independent variable, which is personal religiosity. Table (9-21a), indicates that the Q^2 for the ten human values are as follows: achievement ($Q^2 = 0.01$); benevolence ($Q^2 = 0.01$); conformity ($Q^2 = 0.01$); hedonism ($Q^2 = 0.01$); power

($Q^2=0.01$); self-direction ($Q^2=0.01$); security ($Q^2=0.00$); stimulation ($Q^2=0.02$); tradition ($Q^2=0.01$); universalism ($Q^2=0.01$). According to (Chin 1998 and Hair et al., 2011), Q^2 should be > 0 for all endogenous latent variables. The results show that, even though the Q^2 for the human values is not above the 0.50 criterion, the entire results meet Chin (1998) and Hair et al. (2011)'s criterion as they all above zero. There is some degree of predictability regarding these variables.

Table (9-21 a). AVE, CR, R^2 , and Q^2 of the structural model, with and without taking into account the moderating effect of accepting religious scholars' advice, type of banking services and human values.

Variable	Without moderator effect				With moderator effect			
	AVE	Composite reliability	R^2	Q^2	AVE	Composite reliability	R^2	Q^2
AC	0.81	0.89	0.02	0.01	0.81	0.89	0.02	0.01
BE	0.81	0.9	0.02	0.01	0.81	0.9	0.02	0.01
CO	0.82	0.9	0.01	0.01	0.82	0.9	0.01	0.01
HD	0.77	0.87	0.01	0.01	0.77	0.87	0.01	0.01
PO	0.77	0.87	0.02	0.01	0.77	0.87	0.02	0.01
SD	0.71	0.82	0.02	0.01	0.71	0.82	0.02	0.01
SEC	0.81	0.9	0.01	0.00	0.81	0.9	0.01	0.01
ST	0.77	0.87	0.03	0.02	0.77	0.87	0.03	0.02
TR	0.81	0.89	0.02	0.01	0.81	0.89	0.02	0.01
UN	0.74	0.9	0.01	0.01	0.74	0.9	0.01	0.01
ATT	0.74	0.9	0.52	0.36	0.74	0.9	0.52	0.36
AWR	0.84	0.94	0	0.64	0.84	0.94	0	0.64
COM	0.82	0.93	0.36	0.29	0.82	0.93	0.36	0.29
PEOU	0.68	0.9	0.52	0.35	0.68	0.9	0.52	0.34
EXP	0.78	0.88	0	0.32	0.78	0.88	0	0.32
HUMAN	0.62	0.83	0.36	0.22	0.62	0.83	0.36	0.22
INNV	0.63	0.92	0.36	0.22	0.63	0.92	0.36	0.22
BI	0.8	0.92	0.54	0.41	0.8	0.92	0.56	0.34
PRODUCT	1	1	0.04	0.04	1	1	0.04	0.04
REL	0.51	0.97	0	0.48	0.51	0.97	0	0.48

Table (9-21a) indicates that 0.52 percent of the variance in attitude has been explained. ($R^2 = 0.52$) is considered moderate (Chin, 1998). This result of 0.52 reflects the ability of human values, awareness, perceived ease of use, type of service, willingness to accept religious leaders advice, need for human interaction, personal religiosity, and perceived usefulness to explain 0.52 of the variance of attitude, as table 9-22a indicates. In regard to Q^2 , Table (9-21a) shows that the Q^2 for attitude is 0.36, which indicates a good predictability of this variable within the model.

Table (9-21b). AVE, CR, R^2 , and Q^2 of the structural model, with and without taking the moderating effect of accepting religious scholars' advice, type of banking services and human values.

Variable	Without moderate effect				With moderate effect			
	AVE	Composite reliability	R^2	Q^2	AVE	Composite reliability	R^2	Q^2
LISTEN	0.9	0.95	0.01	0.01	0.9	0.95	0.01	0.01
RISK	0.74	0.93	0.25	0.18	0.74	0.93	0.25	0.17
SOCIAL	0.75	0.9	0.39	0.29	0.75	0.9	0.39	0.28
TRIAL	0.68	0.86	0.19	0.12	0.68	0.86	0.19	0.12
TRUST	0.83	0.93	0.39	0.32	0.83	0.93	0.39	0.32
PU	0.71	0.93	0.64	0.45	0.71	0.94	0.64	0.44
OBS	0.71	0.88	0.3	0.14	0.71	0.93	0.3	0.19
REL * PRODUCT					0.8	0.99	0	0.78
REL * LISTEN					0.81	1	0	0.80
ATT * AC					0.79	0.96	0	0.71
ATT * BE					0.78	0.96	0	0.68
ATT * CO					0.78	0.95	0	0.69
ATT * HD					0.75	0.95	0	0.66
ATT * PO					0.75	0.95	0	0.65
ATT * SD					0.77	0.95	0	0.69
ATT * SEC					0.79	0.96	0	0.71
ATT * ST					0.77	0.95	0	0.68
ATT * TR					0.77	0.95	0	0.69
ATT * UN					0.76	0.97	0	0.71

In addition, table 9-21a shows that 0.36 percent of the variance in compatibility has been explained. ($R^2 = 0.36$) is considered moderate (Chin, 1998). Table 9-22b indicates that 36 percent of the variance in compatibility is explained by awareness. Table (9-21a) shows that the Q^2 for the compatibility is 0.29, which is above the cut-off point of zero that indicates the predictability of this variable within the model.

Table (9-21a) also shows the R^2 result for perceived ease of use. The $R^2 = 0.52$ is considered moderate. However, table (9-22b) indicates that personal religiosity, awareness, and technology experience contribute to explaining 0.52 of the variance of the perceived ease of use of Internet-only banks. Table (9-21a) shows that the Q^2 for the perceived ease of use is 0.35, which indicates good predictability of this variable within the model.

Table 9-22c shows that social influence, innovativeness, and personal religiosity explain 0.36 of the variance of Muslim consumers' need for human interaction. Table (9-21a) indicates that R^2 of the need for human interaction is 0.36, which Chin (1998) considers moderate. , Table 9-21a shows that the Q^2 for human interaction is 0.22, which indicates a good predictability of this variable within the model.

Moreover, table (9-22c) indicates that personal religiosity explains 0.36 of the variance of Muslim consumers' innovativeness. As table (9-21a) shows, the R^2 for innovativeness is 0.36, which is considered moderate. Table (9-21a) shows that the Q^2 for the innovativeness is 0.22, which indicates a good predictability of this variable within the model.

Of the variance in usage intention, 0.54 can be explained by human values, attitude, awareness, compatibility, personal religiosity, perceived risk, perceived trust, social influence, perceived trialability, perceived usefulness, and perceived observability as table 9-22a indicates. An R^2 of 0.54 is considered moderate. On the other hand, an intention score in Q^2 is 0.41. That score reflects the predictability of the variable. In

regard to the importance Muslim consumers place on the type of services provided by the Internet-only banks, and the Muslim consumers' willingness to accept religious leaders' advice in regard to their banking decision, table 9-21a indicates that the R^2 for these two variables is 0.04 and 0.00. The result of the R^2 for these two variables is weak, which shows that personal religiosity (table 9-22c) was not able to explain enough of the variance of these two variables. There may be other factors which have been neglected by the researcher that may help in explaining the variance in these variables. For example, by looking at the results in the appendix C12 it can be seen that respondents differ in their willingness to accept religious leaders advice, the importance they give to the type of service provided in Internet-only banks according to the difference in their gender and the time they have spent living in a conservative Islamic country. By including these demographic factors, the researcher may be able to explain more of the variances in these variables. The Q^2 results in table 9-21a show that both variables present an acceptable level of predictability, as both variables score above zero in Q^2 (0.04, 0.001).

Of the variance of perceived risk, 25 percent can be explained by personal religiosity and awareness. An R^2 of 0.25 is considered moderate. On the other hand, a perceived risk score of 0.18 in Q^2 reflects the relevant predictability of the variable. On the other hand, the R^2 for social influence is 0.38, as shown in table 9-21b. In social influence 38 percent of the variance has been explained by personal religiosity alone as table 9-22c indicates. In addition, table 9-21b shows that the Q^2 is 0.28, which indicates the relevant predictability of this variable.

In addition, table 9-22b shows that 19 percent of the variance in trialability can be explained in terms of awareness. With regard to Q^2 table 9-21b indicates that the relevant predictability of trialability is 0.12, which can be considered acceptable as it is above the cut-off point of zero.

Table 9-21b also indicates that 39 percent of the variance in perceived trust is explained. Ease of use, usefulness, personal religiosity and technological experience were responsible for explaining 39 percent of the variance in perceived trust, as table 9-22b indicates. An R^2 of 0.39 is considered moderate. Table 9-21b shows that the Q^2 for trustworthiness is 0.32. This score reflects the relevant predictability of the variable.

On the other hand, the R^2 for perceived usefulness is 0.64, as shown in table 9-21b. In perceived usefulness 64 percent of the variance can be explained by perceived ease of use, perceived risk, innovativeness, perceived compatibility, technology experience, the need for human interaction, social influence, and perceived trialability, as table 9-22b shows. In regard to Q^2 table 9-21b indicates that the perceived usefulness score of 0.45 shows the relevant predictability of the variable. With regard to perceived observability, table (9-21b) indicates that $R^2 = 0.30$, which means that 30 percent of the variance in observability has been explained in terms of technological experience. In regard to the relevant predictability of the observability, table 9-21b shows that the Q^2 for observability is 0.14, which indicates predictability as this score is above the cut-off point of zero.

Tables 9-21 (a, b) indicate that the moderating effect influenced R^2 and Q^2 for some of the variables within the structural model. As tables 9-21(a, b) show that the Q^2 for the power value, the perceived ease of use, the perceived usefulness, the perceived risk, and the social influence decrease when the moderating effect is introduced to the model. That decrease in Q^2 indicates that the predictability of the variables decreases when the moderating effect is introduced. On the other hand, tables 9-21 (a, b) show that the Q^2 value of observability increases with the introduction of a moderating effect to the model. This increase of Q^2 indicates that the interdiction of the moderators positively affects the predictability of the variables. With regard to behavioural intention, the results show that the Q^2 decreases and the R^2 increases with the introduction of the moderating effect. This means that the moderating variables have contributed to explaining 2 percent of the variance in intention.

When evaluating the structural model f^2 and q^2 can also be taken in account. Table (9-23a, b) shows the results of f^2 and q^2 for each path in the model. The results in table (9-23a, b) present the effect size and the predictability effect on the introduction of each of the paths in the studied model. According to Henseler & Fassott (2009), the f^2 Values of 0.02, 0.15, and 0.35 can be viewed as a weak, medium, or large effect of a predictor's latent variable at the structural level.

In regard to f^2 and q^2 for each path in the model, table 9-23 (a, b) indicates that for all modelled paths, f^2 and q^2 are positive. This indicates that the existence of the paths adds to the predictability of the model. However, most of the scores of f^2 and q^2 in table 9-23 (a, b) are considered weak because they are less than 0.15. The path from personal religiosity to social influence and the scores for this path are $f^2 = 0.65$ and $q^2 = 0.40$. These scores are considered to have a considerable effect on the model. In addition, the score of this path from personal religiosity to perceived risk is $f^2 = 0.33$ and $q^2 = 0.21$. These score are considered as medium effects on the model. The path from personal religiosity and innovativeness is considered to be medium effect for q^2 and a large effect for f^2 while the scores for this path are $f^2 = 0.55$ and $q^2 = 0.28$. In addition, the scores for the path from awareness to trialability are $f^2 = 0.24$ and $q^2 = 0.13$. These scores can be considered a medium effect in regard to f^2 . In addition, with regards to f^2 and q^2 the extensions of the model have a positive effect on its predictability, as f^2 is 0.39, which is considered a large effect. Moreover, q^2 is 0.13 is acceptable as it is larger than zero.

McFarland and Hamilton (2006) suggest that communality coefficients of manifest variables (MVs) should be over 0.30 to consider model fit. Appendix (C-8) illustrates the communality MVs of constructs of the model. The results indicate that all communality MVs are above 0.30.

Table (9-22a). SmartPLS results

	With moderators				Without moderators			
	R2	Q2	β	T-value	R2	Q2	β	T-value
AC -> BI	0.56	0.39	-0.22	1.38	0.54	0.41	-0.05	0.74
BE -> BI			0.20	1.12			0.01	0.16
CO -> BI			-0.58**	2.67			-0.21**	2.74
HD -> BI			0.17	0.97			0.10	1.65
PO -> BI			-0.02	0.11			-0.05	0.70
SD -> BI			-0.14	0.92			-0.07	1.23
SEC -> BI			0.35	1.95			0.08	1.18
ST -> BI			-0.16	1.05			0.00	0.05
TR -> BI			0.14	0.84			0.09	1.39
UN -> BI			0.25	1.49			0.12	1.36
ATT -> BI			0.05	0.45			0.09	1.45
AWR -> BI			0.12**	2.90			0.12**	3.11
COM -> BI			0.12	1.87			0.13	1.91
REL -> BI			0.00	0.07			0.01	0.28
RISK -> BI			0.08*	1.97			0.07	1.90
SOCIAL -> BI			0.13*	2.13			0.14*	2.37
TRAIL -> BI			0.05	0.85			0.03	0.64
TRUST -> BI			0.11*	2.04			0.13*	2.35
PU -> BI			0.06	0.97			0.05	0.88
OBS -> BI			0.19**	3.39			0.17**	3.06
ATT * AC -> BI			0.33	1.45				
ATT * BE -> BI			-0.27	1.02				
ATT * CO -> BI			0.62*	2.01				
ATT * HD -> BI			-0.13	0.54				
ATT * PO -> BI			-0.08	0.30				
ATT * SD -> BI			0.16	0.77				
ATT * SEC -> BI			-0.44	1.79				
ATT * ST -> BI			0.26	1.22				
ATT * TR -> BI			-0.04	0.15				
ATT * UN -> BI			-0.35	1.39				
AC -> ATT	0.52	0.36	-0.14	1.85	0.52	0.36	-0.14	1.82
BE -> ATT			-0.09	1.07			-0.08	0.96
CO -> ATT			0.02	0.30			0.02	0.31
HD -> ATT			-0.18**	2.67			-0.18**	2.76

*** p<0.001; ** p<0.01; * p<0.05

Table (9-22b).SmartPLS results

	With moderators				Without moderators			
	R2	Q2	β	T-value	R2	Q2	β	T-value
PO -> ATT			0.10	1.39			0.09	1.31
SD -> ATT			0.04	0.65			0.04	0.57
SEC -> ATT			0.10	1.31			0.10	1.35
ST -> ATT			0.05	0.80			0.05	0.79
TR ->ATT			0.00	0.04			0.00	0.02
UN -> ATT			0.07	0.88			0.08	0.93
PEOU -> ATT			0.26***	4.73			0.27***	4.61
PRODUCT-> ATT			0.28*	2.31			-0.01	0.23
HUMAN -> ATT			-0.09*	2.23			-0.10*	2.29
REL -> ATT			0.37**	3.61			0.13**	3.02
LISTEN -> ATT			0.20	1.22			0.08	1.71
PU -> ATT			0.35***	6.51			0.35***	6.28
REL * PRODUCT -> ATT			-0.38**	2.57				
REL * LISTEN -> ATT			-0.14	0.77				
COM -> PU	0.64	0.44	0.19***	3.67	0.64	0.45	0.19***	3.39
EXP -> PU			0.26***	5.15			0.26***	5.10
INNV -> PU			0.26***	4.43			0.26***	4.47
HUMAN -> PU			0.00	0.06			0.00	0.06
RISK -> PU			0.05	1.74			0.05	1.64
SOCIAL -> PU			0.10*	2.06			0.10*	2.11
TRAIL -> PU			-0.01	0.19			-0.01	0.19
PU-> PEOU	0.52	0.34	0.04	0.80	0.52	0.35	0.04	0.81
REL -> PEOU			0.32***	8.23			0.32***	8.39
AWR -> PEOU			0.19***	5.17			0.19***	5.15
EXP-> PEOU			0.38***	8.79			0.38***	8.96
AWR -> COM	0.36	0.29	0.26***	6.56	0.36	0.29	0.26***	6.74
EXP -> COM			0.43***	10.36			0.43***	10.13
AWR -> RISK	0.25	0.17	-0.13**	3.37	0.25	0.18	-0.13**	3.21
RIL -> RISK			0.53***	14.51			0.53***	13.91
AWR -> TRAIL	0.19	0.12	0.44***	13.79	0.2	0.12	0.44***	14.00
PEOU -> TRUST	0.39	0.32	0.32***	5.46	0.39	0.32	0.32***	5.59
EXP -> TRUST			0.21***	4.31			0.21***	4.14

*** p< 0.001; ** p<0.01; * p<0.05

Table (9-22c). SmartPLS results.

	With moderators				Without moderators			
	R2	Q2	β	T-value	R2	Q2	β	T-value
REL -> TRUST			0.20***	4.70			0.20***	4.63
PU ->TRUST			0.10*	2.46			0.10**	2.52
INN -> HUMAN	0.36	0.22	-0.28***	5.80	0.36	0.22	-0.28***	5.86
SOCIAL -> HUMAN			-0.15**	2.67			-0.15**	2.74
REL-> HUMAN			-0.27***	5.47			-0.27***	5.70
EXP -> OBS	0.30	0.19	0.55***	16.58	0.3	0.14	0.55***	16.62
REL -> AC	0.02	0.01	0.14***	3.49	0.02	0.38	0.14***	3.45
REL -> BE	0.02	0.01	0.13***	3.35	0.02	0.39	0.13**	3.26
REL -> CO	0.01	0.01	0.12**	3.03	0.01	0.41	0.12**	3.14
REL -> HD	0.01	0.01	0.12*	3.13*	0.01	0.29	0.12*	3.13
REL -> PO	0.02	0.01	0.14***	3.72	0.02	0.31	0.14***	3.70
REL -> SD	0.02	0.01	0.15**	2.43	0.02	0.23	0.15*	2.41*
REL -> SEC	0.01	0.01	0.11**	2.37	0.01	0.38	0.11**	2.53
REL -> ST	0.03	0.02	0.17**	4.29	0.03	0.33	0.17***	4.46
REL -> TR	0.02	0.01	0.12**	3.23	0.02	0.38	0.12**	3.23
REL -> UN	0.01	0.01	0.11**	3.07	0.01	0.48	0.11**	3.12
REL -> INN	0.36	0.22	0.60***	18.23	0.36	0.22	0.60***	18.26
REL -> PRODUCT	0.04	0.04	0.21***	5.33	0.04	0.04	0.21***	5.15
REL -> LISTEN	0.01	0.01	0.09**	2.65	0.01	0.01	0.09**	2.60
REL -> LISTEN	0.39	0.28	0.63***	20.16	0.39	0.29	0.63***	19.71

*** p< 0.001; ** p<0.01; * p<0.05

Table (9-23a). Results of q^2, f^2

<i>Path</i>	<i>Q²</i>	<i>f²</i>
AC -> BI	0.02	0.02
BE ->BI	0.02	0.01
CO -> BI	0.00	0.02
HD -> BI	0.02	0.01
PO -> BI	0.02	0.01
SD -> BI	0.02	0.02
SEC -> BI	0.02	0.02
ST -> BI	0.02	0.01
TR -> BI	0.02	0.02
UN -> BI	0.02	0.02
ATT -> BI	0.03	0.04
AWR ->BI	0.02	0.02
COM -> BI	0.02	0.02
REL -> BI	0.02	0.01
SOCIAL ->BI	0.02	0.02
TRAIL -> BI	0.03	0.01
TRUST -> BI	0.02	0.02
PU -> BI	0.02	0.01
OBS -> BI	0.00	0.02
RISK -> BI	0.02	0.08
AC -> ATT	0.00	0.00
BE ->ATT	0.00	0.00
CO -> ATT	0.01	0.00
HD -> ATT	0.00	0.02
PO -> ATT	0.01	0.00
SD -> ATT	0.00	0.00
SEC -> ATT	0.00	0.00
ST -> ATT	0.01	0.00
TR -> ATT	0.01	0.00
UN -> ATT	0.00	0.00
AWR -> ATT	0.00	0.00
PEOU -> ATT	0.05	0.06
HUMAN -> ATT	0.00	0.00
REL ->ATT	0.02	0.02
PRODUCT -> ATT	0.01	0.00
f^2 (0.02, weak); (0.15, medium); (0.35, large); q^2 (0.02, weak); (0.15, medium); (0.35, large).		

Table (9-23b). Results of q^2 , f^2

<i>Path</i>	q^2	f^2
LISTEN -> ATT	0.00	0.00
PU -> ATT	0.08	0.13
AWR -> COM	0.06	0.08
AWR -> TRAIL	0.13	0.24
AWR -> PEOU	0.03	0.06
EXP -> PEOU	0.09	0.19
REL -> PEOU	0.10	0.15
PEOU -> PU	0.01	0.01
SOCIAL -> PU	0.01	0.01
TRAIL -> PU	0.01	0.01
HUMAN -> PU	0.01	0.01
EXP-> PU	0.04	0.10
COM -> PU	0.03	0.04
INNV -> PU	0.03	0.07
RISK -> PU	0.01	0.01
REL -> TRUST	0.04	0.04
PEOU -> TRUST	0.06	0.08
EXP -> TRUST	0.03	0.04
INNV -> HUMAN	0.03	0.07
REL -> HUMAN	0.03	0.06
SOCIAL -> HUMAN	0.01	0.01
EXP -> OBS	0.24	0.43
REL -> INNV	0.28	0.55
REL -> SOCIAL	0.40	0.65
REL -> RISK	0.21	0.33
AWR -> RISK	0.02	0.12
REL -> PRODUCT	0.04	0.04
REL -> LISTEN	0.01	0.01
REL -> AC	0.01	0.02
REL -> BE	0.01	0.02
REL -> CO	0.01	0.02
REL -> HD	0.01	0.01
REL -> PO	0.01	0.02
REL -> SD	0.01	0.02
REL -> SEC	0.01	0.01
REL -> ST	0.02	0.03

f^2 (0.02, weak); (0.15, medium); (0.35, large); q^2 (0.02, weak); (0.15, medium); (0.35, large).

Table (9-23c). Results of q^2 , f^2

<i>Path</i>	<i>Q²</i>	<i>f²</i>
REL -> TR	0.01	0.02
REL -> UN	0.01	0.01
PU -> TRUST	0.01	0.00
<i>f²</i> (0.02, weak); (0.15, medium); (0.35, large); <i>q²</i> (0.02, weak); (0.15, medium); (0.35, large).		

9.6.2 Results and discussion of PLS analysis

In order to answer the study questions and test their hypotheses we used PLS-SEM. Table 9-18 summarises the situations where the use of PLS-SEM was preferred to CB-SEM. After evaluating both the structure measurements model and the structure model by following the rules, as illustrated in table 9-20, we conducted a bootstrapping using a SmartPLS programme with a sample of 653. According to Chin (1998), the minimum number of re-sampling should be 500. On the other hand, Hair et al. (2011) recommended that the re-sampling should not be less than 5000 samples. However, due to the limited capabilities of the personal computer on hand, that did not allow the researcher to conduct the recommended 5000 re-sampling as Hair et al. (2011) recommended, so a re-sampling of 1000 was conducted.

The hypothetical research model for this study was evaluated using structural equation modelling tool SmartPLS M3 Beta (Ringle et al., 2005). According to the PLS results a substantial number of the study hypotheses were supported. The summary of the research hypothesis and conditions is presented in tables 9-14 (a, b, c, d, and e). The following section elaborates on the discussion of PLS findings and compares the results with those from previous studies in the field, comparing the PLS results with the results of the qualitative study.

Tables 9-32 (a, b, c, d, and e), show the hypothesis, standardised beta and t-value bootstrap for each path. “*The estimated values for path relationships in the structural model should be evaluated in terms of sign, magnitude, and significance*” (Henseler & Fassott, 2009: 303).

H1: Schwartz Human values have significant relationships with consumers’ intentions to use Internet-only banks.

H1a: There is significant negative relationship between conservative values (security, traditionalism, and conformity) and consumers’ intention to use Internet-only banks.

According to the PLS bootstrapping results, two of the conservative values were found to be not significantly related to consumers’ intentions to use Internet banks. The scores for the three conservative values were as follows: security, (b= 0.36, t-value= 1.16), traditionalism, (b= 0.08, t-value= 1.18) and conformity, (b= -0.21, t-value= 2.74). The results showed that there was a non-significant positive relationship between two of the conservative values of security and traditionalism. These positive values were in contrast to the hypothesised relationship between conservative values and usage intention because the research hypothesised a negative relationship. On other hand, the relationship between conformity and usage intention was a significant negative at 0.01. This result partly supported the research hypothesis in regard to the negative relationship between conservative values and use intention.

The results can be interpreted as follows. Respondents who scored high on security and traditional values were more willing to use Internet banks. On the other hand, respondents who scored high on conformity were less willing to use Internet banks. However, these conclusions could not be built on the security and traditionalist values results because the relationships were not significant. The results regarding conformity were consistent with the previous research (Choden et al., 2010) where consumers often emphasised the importance of conforming to others in regard to their

banking behaviour. They believed it was wiser to wait for others and see if they adopted the new technology, and then they would do so. They were also more involved with traditional methods in conducting their banking. They also cared about the security and privacy of banking transactions specifically and in the security and privacy of their personal information in general. They also show hesitation about adopting Internet-only banks because they were unsure that such a bank would be secure enough.

H1b: There is significant positive relationship between self-enhancement values (achievement, and power) and consumers' intention to use Internet-only banks.

Self-enhancement values “*encourage and legitimize the pursuit of one's own interests*” (Choden et al., 2010). Self-enhancement values include achievement and power values. Achievement values refer to achieving personal success, and power values refer to social status and prestige (Schwartz, 1999). The research model in this study hypothesises a positive relationship between power and achievement values and the usage intention. This means that consumers who have high scores in terms of power and achievement are expected to show more interest in using Internet-only banks. The PLS results show that there is a negative relationship between power ($b = -0.02$, $t\text{-value} = 0.11$) and achievement ($b = -0.22$, $t\text{-value} = 1.38$) and consumers' intention to use Internet-only banks. The relationship in both cases (power and achievement) was not significant. Therefore, H1b was not supported. The results of PLS in regard to the relationship between the constructs contrast with Choden et al. (2010) whose results show a weak positive relationship between self-enhancement values and Internet usage in both developing and developed nations. The results also contrast with Bagchi and Kirs' (2009) results that show significant positive relationships in developed countries between personal computer and Internet usage and self-enhancement values. Consumers usually refer to the degree of control and self-independence they could gain when they used Internet-only banks as factors that may help them use such a banking method. They also referred to the independence and control involved in describing their experience in using IB. Consumers concluded that this total control in their banking transaction and

the independence they gained in carrying out all their banking encouraged them to switch to IB, even though they realised it has risks.

H1c: There is significant positive relationship between self-transcendence values (universalism, and benevolence) and consumers' intention to use Internet-only banks.

The results of PLS show no support for this hypothesis. The results show the β and t-values of the paths between universalism, benevolence and intention as follows: universalism, (b= 0.25, t-value= 1.49), benevolence (b= 0.20, t-value=1.12). As it is clear both relationships are not significant in support of H1c. In their research Bagchi & Kirs (2009) suggested that self-transcendence values are irrelevant to the technology usage intention. In other hand, Barnes (2009) concluded that benevolence influences intention to use technology. The results in this research are consistent with Bagchi and Kirs' (2009) suggestion, as the PLS results indicate that even though there are positive relationships between self-transcendence values and consumers' intention to use Internet-only banks, but this relationship was not significant. In regard to benevolence, the results contrast with Barnes' (2009) conclusion that benevolence has a significant positive relationship with IT usage intention.

H1d: There is significant positive relationship between openness to change values (stimulation, self-direction and hedonism) and consumers' intention to use Internet-only banks.

According to the PLS results, there are no significant relationships between the openness to change values and intention to use Internet-only banking. The results of stimulation (b= -0.16, t-value= 1.06) and self-direction (b= -0.14, t-value= 0.92) show contradictory results compared to what is hypothesised as the results show negative relationship. This negative relationship indicates that the higher the respondents score in openness to change values, the less interest they show in using Internet-only banks. This negative relationship contrasts with Bagchi and Kirs (2009) and Choden et al. (2010) indicating

that there are positive relationships between the openness to change values and consumers' intentions to use technology. The results also contrast with qualitative studies indicate that interviewees refer to the enjoyment they gain in using IB as one of the factors that make them adopt Internet banks. They also indicated that these factors are a reason that may encourage them to use Internet-only banks if these banks are available to them. In regard to hedonism ($b= 0.17$, $t\text{-value}= 0.97$), the results are consistent with those of Bagchi and Kirs (2009) and Choden et al. (2010).

It could be concluded from the above discussion of H1 that the results indicate no significant relationships between conservative values and behavioural intentions, except where results show a significant negative relationship between conformity values and BI. On the other hand, the results of the relationships between self-enhancement values and BI show a negative relationship between these two variables which is opposite to what has been hypothesised. In addition, the results indicate that the relationships between self-transcendence values and BI are positive but not significant in terms of supporting the hypothesis relationships. Moreover, the results did not confirm the relationship between the openness to change values and BI. Therefore, it could be concluded that, in contrast to Bagchi and Kirs (2009) and Choden et al. (2010)'s argument that there is a relationship between human values and technology acceptance, the results of current study show no significant relationship between human values and behavioural intention, except for one of conservative values which is conformity.

H2: Schwartz's Human values significantly influence consumer attitude to Internet-only banks.

H2a: There are significant negative relationships between conservative values (security, traditionalism, and conformity) and consumers' attitude to Internet-only banks.

In contrast to the hypothesised relationship between conservative values and consumer's attitudes to Internet-only banks, the results indicate that there is a non-

significant positive relationship. The results show the path coefficients and t-values of traditionalism, conformity, and security. The results indicate that the relationship between traditionalism values ($b= 0.00$, $t\text{-value}=0.04$), security ($b=0.10$, $t\text{-value}= 1.31$), conformity ($b=0.02$, $t\text{-value}= 0.30$) and attitude is positive. The results are not significant. Their b-value is close to zero. These results are neither significant nor negative in supporting the H2a hypothesis.

H2b: There are significant positive relationships between self-enhancement values (achievement, and power) and consumer attitude to Internet-only banks.

The results show that there are usually positive relationships between power values and consumers attitudes to Internet-only banks. On the other hand, the results also indicate that the relationship between achievement and consumers attitudes to Internet-only banks can be negative. But in both cases, the results are not significant in supporting the hypothesis. They indicate that the b-values and t-values of the path from achievement to attitude are ($b=-0.14$, $t\text{-value} = 1.85$) and the b-value and t-value for the path from power to attitude is ($b\text{-value}= 0.10$, $t\text{-value}= 1.39$).

H2c: There are significant positive relationships between self-transcendence values (universalism, and benevolence) and consumers' attitude to Internet-only banks.

The PLS results indicate that there is positive relationship between universalism values and attitudes to Internet-only banks but that this relationship is not significant ($b=0.07$, $t\text{-value}= 0.88$). On the other hand, the results of PLS indicated that the relationship between benevolence values and attitudes to Internet-only banks is a non-significant negative relationship ($b= -0.09$, $t\text{-value}= 1.07$). Both results were considered not significant relationships. Therefore, the H12c hypothesis is not supported.

H2d: There is significant positive relationship between openness to change values (stimulation, self-direction, and hedonism) and consumers' attitudes to Internet-only banks.

Even though it was expected that there would be a significant positive relationship between the openness to change values and the attitude to Internet-only banks, the results in regard to the relationship between stimulation values and attitude were positive but not significant ($b= 0.05$, $t\text{-value}= 0.80$). Also, the relationship between self-direction value and attitude was positive but not significant ($b=0.04$, $t\text{-value}=0.65$). In regard to the hedonism value, the results contrast with what was expected as they indicate a significant negative relationship with attitude ($b=-0.18$, $t\text{-value}= 2.67$). Therefore, the hypothesised relationship between openness to change values and consumers' attitude to Internet-only banks was not supported because the results for the two of the values (stimulation values and self-direction) were not significant and the direction of the third value of hedonism was negative rather than positive.

It could be concluded from the above discussion of H2 that the results show no significant relationship between attitudes to Internet banks and conservative values, self-enhancement, self-transcendence, stimulation, and self-direction values. On the other hand they show that the relationship between hedonism value and attitude was significant but was in contrast to what had been hypothesised: the relation was negative. These non-significant relationships may indicate that human values do not really play an important role in influencing consumers' attitudes to technology, or that there are some factors that may have mediating or moderating effects which weaken the relationships between these variables and these moderating or mediating variables need to be further investigated. In regard to the hedonism value, there is a need to understand the reason for the negative relationship between this and Muslim consumers' attitudes to IB. There is also a need to understand the acceptance of hedonism values within different religions and how this may influence certain religious followers' technology acceptance behaviour. Some religions may show some rejection of hedonist values, so the followers

of such religions may create negative attitudes to innovation if they believe that this innovation could enhance their hedonist values.

H3: Personal religiosity has a significant relationship with Schwartz's human values.

H3a: There is a significant positive relationship between consumers' personal religiosity and conservative values (security, traditionalism, and conformity).

The results indicate that the relationship between conservative values (security, traditionalism, and conformity) and Muslim consumers' personal religiosity is significant and positive. The results of b-value and t-value for each of the three of the conservative values were as follows: security, (b=0.11, t-value=2.37), traditionalism, (b=0.12, t-value=3.23), and conformity, (b=0.12, t-value=3.03). This positive significant result supports (Sheth, 1981; Schwartz & Huisman, 1995)'s results that indicated the positive influence of religiosity on conservative values.

H3b: There is significant negative relationship between consumers' personal religiosity and self-enhancement values (achievement and power).

Schwartz and Huisman (1995) state that the relationship between religiosity and self-enhancement values is negative. The results indicate that the relationship between consumer's personal religiosity and self-enhancement values (achievement, and power) is significantly positive. The results show that the values of b and t for each of the self-enhancement values are as follows: achievement (b=0.14, t-value=3.49) and power (b=0.14, t-value=3.72). These results contrast with those of Schwartz and Huisman (1995) and can be attributed to the differences in the teachings of various religions. As mentioned earlier in section 8.2.1, Schwartz values been applied to enough studies of Eastern religions as they have to Western religions.

H3c: There is significant positive relationship between consumers' personal religiosity and self-transcendence values (universalism and benevolence).

The results of the quantitative study indicate that the relationship between self-transcendence values (universalism and benevolence) and consumers' personal religiosity is significantly positive. The values of the self-transcendence are as follows: universalism ($b=0.11$, $t\text{-value}=3.07$) and benevolence ($b=0.13$, $t\text{-value}=3.35$). This positive results supports Schwartz and Huisman (1995)'s results that indicate that there is a positive relationship between religiosity and self-transcendence values.

H3d: There is significant negative relationship between openness to change values (stimulation, self-direction, and hedonism) and consumers' personal religiosity.

The results show that the relationship between openness to change values and personal religiosity is significantly positive. The values of t and path coefficients for each one of the three in terms of openness to change values are as follows: stimulation ($b=0.17$, $t\text{-value}= 4.29$), self-direction: ($b=0.15$, $t\text{-value}=2.43$) and hedonism: ($b=0.12$, $t\text{-value}= 3.13$). These significant positive relationships mean that the higher the religiosity of the person, the higher score he/she will have in terms of openness to change values. This positive result contrasts with Schwartz and Huisman (1995)'s results that state that the relationship between openness to change values and religiosity is negative. As has been discussed in H3c, this positive relationship could be related to the specific teaching in the Islamic religion, which has not been investigated in Schwartz and Huisman (1995)'s study.

H4a: There is a significant positive relationship between consumers' awareness of Internet-only banks and their perception of the trialability of Internet-only banks.

The results show that there is a positive relationship between consumer's awareness of Internet-only banks and their perceptions of the trialability of Internet-only banks. This

relationship is significant ($b= 0.44$, $t\text{-value} = 13.79$). According to these results, consumers who are more aware of the existence and benefits of Internet-only banks perceived this as indicating that banks are trialable for those who are not aware of Internet-only banks.

H4b: There is significant positive relationship between consumers' awareness of Internet-only banks and their behavioural intention to use them.

PLS bootstrapping results indicated that there is a significant positive relationship between consumers' awareness and their behavioural intention ($b=0.12$, $t\text{-value}=2.90$); thus providing support for H4b. As was predicted, consumers' awareness of Internet-only banks is significantly related to the consumer's intention to adopt such banks. The results reflect that the more information consumers have about Internet-only banks, the more they will be willing to use such banks. This result is consistent with Al-Somali et al. (2009)'s conclusions in regard to the adoption of IB in Saudi Arabia. It is also consistent with the results of (Howcroft et al., 2002; Sathye, 1999). Moreover, this result is compatible with the results of this study's qualitative research with regard to the importance the interviewees gave to raising the awareness of the Internet-only banks as a way to convince them to use such banks.

H4c: There is a significant positive relationship between consumers' awareness of Internet-only banks and their perception of the compatibility of Internet-only banks.

The results indicate that the more awareness of the Internet-only banks consumers have, the more they will perceive these banks as compatible to their lifestyle. The results show that the relationship between awareness and perceived compatibility is significant ($b= 0.26$, $t\text{-value} = 6.26$).

H4d: There is a significant negative relationship between consumers' awareness of Internet-only banks and their perceptions of risk in the Internet-only bank.

The results show that there is significant negative relationship ($b = -0.13$, $t\text{-value} = 3.37$) between Muslim consumers' awareness of the Internet-only banks and their perception of the risk involved in Internet-only banking. The results indicate that those consumers who were aware of the Internet-only banks did not perceive these banks as a high-risk banking method. This negative relationship between awareness and perceived risk was not only related to consumers getting enough information about the product or service but also being assured about the benefits of such products and service and feeling more secure about it.

H4e: There is a significant negative relationship between consumers' awareness of the Internet-only banks and their perception of ease of use of the Internet-only bank.

Results indicate that there is significant positive relationship ($b = 0.19$, $t\text{-value} = 5.17$) between consumers' awareness of the Internet-only banks and their perception of their ease of use. The results suggest that those consumers who are aware of the Internet-only banks perceive these banks as an easy to use banking method. This significant positive relationship between awareness and perceived ease of use could be interpreted as being related to when consumers get enough information about an innovation and they are more assured about its degree of complexity and thus believe it is easy to use.

H5a: There is significant positive relationship between social influence and consumers' need for human interaction.

In this hypothesis it is expected that the more consumers are influenced by others in taking their decisions, the more need they will have for human interaction. The results

did not support this hypothesis as they showed significant negative relationship between social influence and consumers' need for human interaction ($b=-0.15$, $t\text{-value}=2.67$). Those who believed that they would take all their banking decisions with influence from others showed less interest in interacting with bank employees. This negative relationship could be related to friends and relatives having a negative influence on preferences to interact with bank employees. Their previous negative experience with bank employees could be transferred to their social network, causing this negative preference about human interaction.

H5b: There is a significant positive relationship between social influence and consumers intentions to use Internet-only banks.

The results show that the b-value for the path from social influence to behavioural intention is 0.13, and that the t-value for the path is 2.13. These results indicate a significant positive relationship between these constructions. These results mean the more the person is influenced by others' opinion in regard to banking behaviour, the more it is expected that he/she would use Internet-only banks. This positive relationship supports Fishbein and Ajzen (1975a) and Straub and Chervany (1999)'s results that suggest the positive influence of social influence on consumers' behavioural intention.

These positive results support the results of the qualitative study of this research. The qualitative results suggest that social influence enhances consumer's intentions to use Internet-only banks. Interviewees in the qualitative study mentioned that their friends and family members had influenced their decisions about using IB. Interviewees also indicated that they may use Internet-only banks if friends and relatives did so or if they encouraged them to use Internet-only banks.

H6a: There is significant positive relationship between consumers' technology experience and their perception of ease of use of Internet-only bank.

The results show that the relationship between consumers' technological experience and their perception of the ease of use of the Internet-only banks is significantly positive ($b=0.38$, $t\text{-value}=8.79$). This significant positive relationship supports the assumption that the more experience the consumers have of the use of the technologies, the more they will perceive new technologies as being easy to use. This positive relationship also supports Burton-Jones and Hubona (2006)'s conclusions that the consumers' technological experience has a positive influence on their perceptions of ease of use of the technologies. These results support the qualitative research, which indicated that most interviewees who had used IB and telephone banking perceived the Internet-only banks as easy to use. Those who had not used any of the e-banking methods believed it was not easy for them to use Internet-only banks.

H6b: There is a significant positive relationship between consumers' technology experience and their perception of usefulness of Internet-only banks.

The results indicate that the relationship between consumers' technological experience and their perception of the usefulness of the Internet-only banks is significantly positive ($b= 0.26$, $t\text{-value} = 5.15$). This significant positive relationship supported the assumption that the more technological experience the consumers have, the more they will perceive the Internet-only banks as useful. This positive relationship also supports Eriksson and Nilsson (2007)'s conclusions that consumers' technological experience can have a positive influence on their perceptions of the usefulness of the technologies. These results support the qualitative study of this research, which indicate that interviewees who have used IB and telephone banking perceive the Internet-only banks as useful, while those who have not used any of the e-banking methods yet believe that they will not be useful for them.

H6c: There is a significant positive relationship between consumers' technology experience and their perception of the observability of Internet-only banks.

The results indicated a significant positive relationship between technological experience and consumers' perception of the observability of Internet-only banks ($b=0.55$, $t\text{-value}=16.58$). Therefore, the hypothesis is supported. This positive relationship supports the qualitative study result. Interviewees who have technological experience believe that the Internet-only banks will be visible to them. On the other hand, those interviewees who had less technological experience believe the Internet-only banks will not be visible.

H6d: There is significant positive relationship between consumers' technology experience and their perceptions of the trust in Internet-only banks.

The results for the relationship between consumers' technological experience and their perceptions of the trust of Internet-only banks were significant. Results showed a significant positive relationship between the two constructs ($b=0.21$, $t\text{-value}= 4.31$). Therefore, the H6d hypothesis is supported.

These positive results support Al Mogbil (2005)'s conclusion that Saudi consumers technological experience positively influences their trust in online banking. The results of quantitative study of the relationship between consumers' technological experience and their perception of the perception in Internet-only banks also supports qualitative study suggestions. Qualitative studies indicates that the more technological experience an individual has, the more trust he/she will show in new technologies.

H7a: There is a significant negative relationship between consumers' innovativeness and their need for human interaction.

It is expected that the more innovative a person is, the less interest he/she will show in human interaction. The results indicate a significant negative relationship between consumers' innovativeness and their need for human interaction ($b=-0.28$, $t\text{-value}=5.80$). That means that the higher the consumers' innovativeness, the less they will be interested in interacting with bank employees. This significant negative relationship supports what has been concluded in the qualitative part of this research, which indicated that the more innovative the interviewees, the less need they have for human interaction. Those who are more innovative prefer to interact with machines rather than interacting with humans. They attribute their lack of interest in interacting with bank employees to the lack of training of the bank employees and see human interaction as time consuming and often the cause of troubles. On the other hand, those who are less innovative prefer branch banking as it allows them to interact with the bank employees who they think are very helpful and able to solve their problems if they occur.

H7b: There is a significant positive relationship between consumers' innovativeness and the perceived usefulness of the Internet-only bank.

It is expected that the more innovative a person, the more they would perceive innovation as useful for them. The results indicate a significant positive relationship between consumers' innovativeness and their perceptions of the usefulness of the Internet-only bank ($b=0.26$, $t\text{-value}= 4.43$). That means that the higher the consumers' innovativeness, the more they would believe the Internet-only bank is useful to them. Therefore the hypothesis is supported and accepted.

H8a: There is a significant positive relationship between consumer's perception of the trialability of Internet-only banks and their intention to use Internet-only banks.

The results show that there is positive relationship between consumers' perceived trialability of Internet-only banks and their usage intentions. But the relationship is not significant ($b=0.05$, $t\text{-value}=0.85$). According to Roger (1975), consumers will be more willing to adopt innovation if they have the opportunity to try it. Roger (1975); Moore and Benbasat (1991); Al Gahtani (2003) and Meuter et al. (2005) state that there is a significant relationship between products and services' trialability and consumers' intentions to use such products and services.

On the other hand, the qualitative study of this research showed that interviewees initially prefer to use Internet banks on a trial basis before they take the decision to adopt Internet banking.

H8b: There is a significant positive relationship between consumers' perceptions of the compatibility of Internet-only banks and their intention to use them.

The results show that there is a positive relationship between compatibility and behavioural intentions. Consumers are more willing to accept new technologies if they believe that they will not involve the learning of new skills. Internet-only banks are considered an extension of other IB methods. Therefore, those who are already adopting IB will not find any difficulties in using Internet-only banks. The results suggest that consumers believe that Internet-only banks are compatible with their banking experience, and so they are more willing to use them. This result is consistent with Meuter et al. (2005); Al Gahtani (2003); Moore and Benbasat (1991) and Roger (1975)'s studies, which concluded that there is a positive relationship between consumers' perceived compatibility with technology and their intention to use that technology.

This result is also compatible with the qualitative study results. The interviewees referred to compatibility as one of the important factors which made them more interested in using Internet-only banks. However, the PLS results ($b= 0.12$, $t\text{-value}= 1.87$) were not significant enough to support the hypothesised relationship between consumers' perceived compatibility of Internet-only banks and their intention to use such banks.

H8c: There is a significant positive relationship between consumers' perceptions of the observability of Internet-only banks and their intention to use Internet-only banks.

The results of PLS indicate that there is a positive relationship between consumers' perception of the observability of Internet-only banks and their intention to use such banks. The path coefficient is $b=0.19$ and the $t\text{-value} =3.39$. This positive relationship means that consumers are more willing to use Internet-only banks if they believe that their use of these banks is visible to others. This positive result is significant. This result supports Meuter et al. (2005), Al Gahtani (2003), Moore and Benbasat (1991) and Roger (1975)'s results that point to the relationship between self-service technology acceptance and the visibility of the technology. This significant positive result also supports the qualitative study results. Interviewees in the qualitative study mentioned that the physical appearance of the Internet bank is very important for them. They also mentioned that they would not accept Internet-only banks unless these banks had representative offices in the country.

H9a: There is a significant positive relationship between consumer's perception of the compatibility of Internet-only banks and consumer's perception of the usefulness of the Internet-only banks.

The results of PLS show that there is significant positive relationship between consumers' perception of the compatibility of Internet-only banks and their perceptions

of the usefulness to such banks. The path coefficient is $b=0.19$, and $t\text{-value}=3.67$. This positive relationship means that consumers believe in the usefulness of Internet-only banks if they think that this type of innovation is compatible with their values, lifestyle, and previous experiences.

H9b: there is a significant positive relationship between consumer's perception of the trialability of Internet-only banks and consumer's perception of the usefulness of the Internet-only banks.

The results indicate that there is no significant negative relationship between consumer's perception of the trialability of Internet-only banks and their perceptions of the usefulness to such banks. The path coefficient of is $b=-0.01$, and $t\text{-value}=0.19$. This non-significant negative relationship suggests that allowing consumers to use the Internet-only bank on a trial basis would not significantly affect their perceptions of the usefulness of such a bank.

H10: There is a significant positive relationship between consumers' attitudes to Internet-only banks and their intentions to use them.

The PLS results indicate that attitude has positive relationship with usage intention. The coefficient values were $= 0.05$ and $t\text{-value}= 0.45$ for the path from attitude to usage intention. This positive relationship means that consumers with a positive attitude to Internet banks show more interest in using Internet-only banks. But these results are not significant in supporting the hypothesis. Even though the relationship between the two constructions is not significant in supporting the hypothesis, this result is consistent with Karahanna et al. (1999); Agarwal & Prasad (1998); Davis (1989); Ajzen (1985) and Fishbein and Ajzen (1975b)'s results.

H11a: There is significant positive relationship between consumers' perceptions of the usefulness of Internet-only banks and their intention to use Internet-only banks.

With regard to the relationship between perceived usefulness and behavioural intentions, the results show that ($b=0.06$, $t\text{-value}=0.97$). The relationship between these variables is positive. However, the t -value refers to a non-significant relationship between the two constructions. In contrast to what was expected the relationship between perceived usefulness and usage intention was not significant. This result was also in contrast to Jahangir and Begum (2008), Yousafzai et al. (2007) and Lu and Gustafan (1994)'s results that indicate that there is a significant positive relationship with behavioural intention.

When the results of the relationship between perceived usefulness and behavioural intention in the model (figure 9-8) are compared with the results related to the relationship between perceived usefulness and behavioural intention in the model (figure 9-7a), it is clear that the relationship between the two variables is significant, but became non-significant in model 9-8. The change in the significance of the relationship can be attributed to the complexity of the model (figure 9-8). The introduction of several variables to the model may cause mediating effects that weaken the relationship between perceived usefulness and behavioural intention.

H11b: There is a significant positive relationship between consumers' perceived usefulness of Internet-only banks and their attitude to Internet-only banks.

TAM assumes that the perceived usefulness of a technology positively influences individual attitudes to this technology. Consistently with Davis' (1989) conclusions, the results indicate that there is a significant positive relationship between consumers' perceptions of the usefulness of Internet-only banks and their attitudes to these banks ($b= 0.35$, $t\text{-value}= 6.51$). The results indicate that consumers have a positive attitude to

Internet-only banks because they perceive these banks as useful for them. This result supports that of previous studies (Davis, 1989; Aziz et al., 2007), which state that there is significant positive relationship between the perceived usefulness of technologies and consumers' attitudes to those technologies. This positive result also supports the results of the qualitative study, which suggest that consumers who believe that IB is useful to them contribute to developing positive attitudes to this banking method.

H11c: There is a significant positive relationship between consumers' perceptions of the ease of use of Internet-only banks and their attitude to Internet-only banks.

One of TAM's assumptions is that perceived ease of use influences attitudes positively. The results of the quantitative study of this research support Davis (1989)'s assumption. The results indicate that the values of the path coefficients and the t-values for the path from perceived ease of use to attitude are ($b=0.26$, $t\text{-value}= 4.73$). That means that the more the consumers perceive the ease of use of Internet-only banking, the more positive attitude they will have to Internet-only banks. The results also support the qualitative study results, which showed that interviewees referred to ease of use as one of the factors that encourage them to use IB. They also state that they will use Internet-only banks if they believe they are easy to access and use. Moreover, the open ended questions of the research questionnaire indicated that the most of the respondents refer to complexity as one of the reasons that may negatively influence their decision to use Internet-only banks.

H11d: There is a significant positive relationship between consumers' perceived ease of use of Internet-only banks and their perception of usefulness of Internet-only banks.

This hypothesised relationship was not supported, as the results showed that there was a non-significant positive relationship ($b= 0.04$, $t\text{-value} = 0.80$) between consumers' perceptions of the ease of use of the Internet-only banks and their perceptions of the

usefulness of these banks. This non-significant positive relationship contrasts with Davis' (1989) conclusion that the perception of ease of use positively influences the consumers' perceptions of usefulness of the technologies.

H11e: There is a significant positive relationship between consumers' perceived ease of use and their perception of the perceived trust in Internet-only banks.

There is a significant positive relationship between consumer's perception of ease of use of Internet-only banks and their perception of the trust in the Internet banks. The results indicated that the b-value and t-value of the path between these two constructions was significant (b= 0.32, t-value= 5.46). This positive relationship means that consumers will perceive Internet-only banks as trustworthy if these banks are easy to use. Their trust may be developed from their expectation of having fewer errors if the technology is easy to use. This makes them trust their ability to use the technology and trust the bank's ability to maintain their benefits. They may believe that the efforts the bank has made to develop less complex systems mean that it deserves to be trusted. But the influence of ease of use with regard to perceived trust should be investigated with regard to the mediating effect of security as it is important for the bank to provide its customers with security and assurances of ease of use on its website to gain their trust.

H11f: There is a significant positive relationship between consumers' perceptions of usefulness and the perceived trust in Internet-only banks.

The results indicate that there is a significant positive relationship (b= 0.10, t-value= 2.46) between Muslim consumers' perception of usefulness and their perception of the trust in Internet-only banks. This significant positive relationship means that the perception of usefulness of technology may make consumers trust this technology.

H12: There is a significant negative relationship between consumers need for human interaction and their attitude to Internet-only banks.

Consistently with what has been argued, the results showed the existence of a significant negative relationship between consumers' need for human interaction and their attitudes to Internet-only banks. The results indicated that there is negative relationship between the two constructs ($b = -0.09$, $t\text{-value} = 2.23$). This negative relationship means that the more the need for human interaction, the more consumers may develop negative attitudes to Internet-only banks. This result supports Meuter et al. (2005)'s results. The negative relationship result also supports the qualitative study which suggests that interviewees who show more interest in interacting with bank employees hold negative attitudes to the idea of Internet-only banks.

H13a: There is significant negative relationship between consumers' perceptions of risk in Internet-only banks and their intention to use them.

According to Pavlou (2003); Jarvenpaa et al. (2000), Jahangir and Begum (2008) and Ellen et al. (1991), risk has a negative influence on technology usage intentions. However, the results of the study show the opposite. The results of the path analysis surprisingly showed a significant positive relationship between risk and usage intention ($b = 0.08$, $t\text{-value} = 1.97$).

This result indicates that the more the consumers perceive risk in Internet-only banks, the more they will be interested in using Internet-only banks. This positive relationship could be attributed to the respondents' tendency to risk-taking behaviour. Another explanation is that consumers expected high outcomes and incentives from Internet-only banks related to the high risks they are willing to accept. This positive relationship could be related to Muslim consumers expecting that the Internet-only banks will provide them with Islamic banking solutions. They are willing to accept risks if these banks will fulfil their need for Islamic banking services.

This PLS positive result related to the relationship between perceived risk and usage intention contrasts with previous studies in the field, which indicated that there is a negative relationship between perceived risk and technology acceptance. Moreover, the results of qualitative study in the research in hand show that interviewees mentioned hacking as one of the perceived risks of Internet banks that make them hesitate to use IB. On the other hand, the qualitative study indicated that Muslim interviewees with high religiosity are willing to accept risks if the Internet-only banks are the only way for them to obtain Islamic banking services.

H13b: There is a significant negative relationship between consumers' perception of risk in Internet-only banks and their perception of the usefulness of Internet-only banks.

The results show a positive but not significant relationship between consumers' perceptions of risk on the Internet-only banks and their perception of the usefulness of Internet-only banks ($b= 0.05$, $t\text{-value}= 1.74$). The results suggest that the more the consumers perceived risks in Internet-only banks, the more they believe that they are useful for them. This positive relationship could be attributed to that consumers linking risk with quality and productivity.

H14: There is a significant positive relationship between consumers' perceptions of the trust in Internet-only banks and their intention to use Internet-only banks.

The results refer to the significant positive relationship ($b=0.11$, $t\text{-value}=2.04$) between consumers' perception of the trust in Internet-only banks and their intention to use them. This result supports Gefen (2003)'s conclusions in regard to the influence of trust on consumers' intentions to use technology. This result also is consistent with the qualitative results. Interviewees in this study referred to the trust in the bank as one of the important factors that determine their intention to use Internet-only banks. The

interviewees believed that their trust in the banks would determine their decision to adopt Internet-only banking if the bank which they already had a bank account with provided e-banking.

H15a: There is a significant positive relationship between consumers' personal religiosity and their intention to use Internet-only banks.

The results show that the relationship between consumers' personal religiosity and usage intention is not significant with a t -value=0.07. This result could be compared with Rehman and Shabbir (2010), whose results indicate a significant positive relationship between Muslim religiosity and the intention to adopt new products, and Armfield and Holbert (2003)'s study that refers to a negative relationship between religiosity and individuals' willingness to use technology. It is clear that the result of the quantitative study of this research contrast with previous studies in the field by indicating no significant results regarding religiosity and usage intentions. This non-significant relationship could be attributed to the complexity of the model in hand, which may cause a mediating effect between variables that may weaken the relationship. When the direct effect of religiosity in intention (appendix F-4) was tested, the results showed a significant positive relationship at 0.001 ($b= 0.50$, t -value= 13.60) between personal religiosity and usage intention. However, with the introduction of all other variables into the study model, this significant relationship between personal religiosity and usage intention was weakened.

In addition, when the quantitative study results are compared with the qualitative study results, the qualitative study shows that religious people show interest in using Internet-only banks if these banks provide them with Islamic banking services. On the other hand, the quantitative study shows no significant effect of personal religiosity on consumers' intentions to use Internet-only banks.

Moreover, the interviews with religious scholars revealed that the Islamic religion did not restrict the adoption of Internet-only banks if these banks followed the Islamic law in all of their transactions. Since the relationship between personal religiosity and usage intention is not significant, H15a is not supported.

H15b: There is a significant positive relationship between consumers' personal religiosity and their attitude to Internet-only banks.

Tansuhaj et al., (1991); Katz & Francis, (1995) assumed that personal religiosity has a negative influence on consumers' attitudes to technology. The results of the study showed the opposite. A significant positive relationship has been observed between Muslim consumers' personal religiosity and their attitudes to Internet-only banks ($b=0.37$, $t\text{-value}=3.61$). This significant positive relationship supports the qualitative study results. The results of the qualitative study suggested that religious people are not less interested in Internet-only banks than those who are less religious. On the contrary, religious people who have been interviewed believe that Internet-only banks are helpful for them in maintaining their religion by not leaving their work in order to do some banking. They also believe that this type of banking method may help in spreading Islamic banking globally. This positive attitude to Internet-only banks by religious people is rooted to their belief that Islamic banks will adopt this banking method and allow them to access it.

H15c: There is significant negative relationship between consumers' personal religiosity and Muslim innovativeness.

Previous studies in the field of consumer technology acceptance behaviour often indicated that religious people are less innovative (Armfield & Holbert, 2003). However the results indicated that the relationship between personal religiosity and Muslim consumers' innovativeness is significantly positive ($b=0.60$, $t\text{-value}=18.23$). This significant positive relationship indicated that the more religious the person, the more

innovativeness they would show. This positive relationship contrasts with Tansuhaj et al. (1991)'s results that indicated that religious people are less innovative and hesitate to be the first to try new products and services. On the other hand, this positive relationship is supported by Rehman and Shabbir (2010) which has been conducted within Islamic religion and shows a positive relationship between the religiosity of a person and his/ her innovativeness.

Moreover, this significant positive relationship supports the results of the qualitative study. These suggested that the higher the religiosity of Muslim consumers, the higher innovativeness they show. Highly religious Muslim consumers who were interviewed showed more enthusiasm to try the Internet-only banks than those who were less religious.

H15d: There was a significant positive relationship between consumers' personal religiosity and their perceived trust of Internet-only banks.

Siala et al. (2004) state that religious affiliation influences consumers' trust in e-commerce. The results indicate that the relationship between personal religiosity and perception of trust is significantly positive ($b= 0.20$, $t\text{-value}= 4.70$). This positive relationship means the more religious the consumer, the more he or she will perceive Internet-only banks as a trustworthy banking method. This positive result also supports the qualitative study results. The qualitative study indicated that religious interviewees believe that the Internet-only banks are trustworthy if those banks are Islamic. On the other hand, the less religious interviewees believed that Internet-only banks were not trustworthy, whether they were Islamic or not.

H15e: There is a significant positive relationship between consumers' personal religiosity and their perception of the ease of use of Internet-only banks.

The results indicated a significant positive relationship between consumers' personal religiosity and their perception of the ease of use of the Internet-only banks ($b= 0.32$, $t\text{-value} = 8.23$). This significant positive relationship means that those consumers who are more religious believe that Internet-only banks are easy to use. The positive relationship is supported by the qualitative study results that suggest that high religiosity consumers perceive Internet-only banks as easy to use.

H15f: There is a significant positive relationship between consumers' personal religiosity and the importance Muslim consumers give to obtaining Islamic banking services through Internet-only banks.

According to the quantitative study results, the relationship between Muslim consumers' personal religiosity and the importance Muslim consumers gave to obtaining Islamic banking services through Internet-only banks is a significant positive relationship ($b=0.21$, $t\text{-value}=5.33$). Therefore, H15f hypothesis is supported. This positive relationship supports the qualitative study result that indicated that interviewees with high religiosity gave more importance to obtaining Islamic banking services through Internet-only banks as a condition of accepting these banks, while interviewees with low religiosity showed indifference to whether the Internet-only banks were Islamic or not. The positive significant result was consistent with the results in table 9-8 which indicated that Muslim consumers differ significantly in the importance they give to obtaining Islamic banking through IB, just as they differ in their level of religiosity.

H15g: There is a significant negative relationship between the importance Muslim consumers give to obtaining Islamic banking services through Internet-only banks and their attitudes to Internet-only banks.

It was predicted in figure (9-1) that the more importance Muslim consumers give to obtaining Islamic banking services through Internet-only banks, the more chance they may develop a negative attitude to Internet-only banks if they perceived them as being

non-Islamic. The results show that the relationship between the types of service provided through Internet-only banks and Muslim consumers' attitudes to these banks ($b= 0.28$, $t\text{-value}= 2.3$) is significant positive. This means that the hypothesis is not supported. Furthermore, this result did not support the qualitative study results. The qualitative study suggested a relationship between Muslim consumer's attitudes to Internet-only banks and the type of banking services introduced through these banks. Religious scholars refer to the type of banking services provided through Internet-only banks as an important element in the decision to accept or reject this type of banking method from an Islamic perspective. The Muslim consumers who were interviewed stressed the importance of Internet banks providing them with Islamic banking.

H15h: There is a significant positive relationship between consumers' personal religiosity and their willingness to accept religious leaders' advice.

As expected, the results indicated that personal religiosity has a positive relationship to Muslim consumers' willingness to accept religious leaders' advice about banking decisions. The results showed a significant positive relationship at 0.01 between the two constructions ($b=0.09$, $t\text{-value}=2.65$). Consumers with high religiosity are more willing to accept religious leaders' advice in regards to banking. This result supports the qualitative study result that indicates that interviewees with high religiosity show more willingness to listen to and more respect to religious leaders.

H15i: There is a significant negative relationship between consumers' willingness to listen to religious leaders' advice and their attitude to Internet-only banks.

Kalliny & Hausman (2007) suggest that it is important for marketers to obtain religious leaders' approval before introducing new products to countries where religion and the state are closely related, as in Saudi Arabia. Banking services in that country are highly influenced by Islamic teaching, so most Muslims refer to Muslim religious leaders with regard to their banking decisions. The results showed no significant positive relationship

between Muslim consumers' willingness to listen to religious leaders' advice in regards to their banking decision and the attitudes they may develop to the service ($b=0.20$, $t\text{-value}=1.22$). Even though this result was not significant, it supports Kalliny and Hausman's (2007) suggestion about the importance of religious leaders' opinions with regard to consumer acceptance of a new product. This also supports the qualitative study results that confirm the importance Muslim consumers give to the advice of Muslim religious leaders in regard to their banking decisions.

H15j: There is a significant positive relationship between Muslim consumers' personal religiosity and social influence.

It is often assumed that religious people are more influenced by friends, relatives and religious leaders' opinion than those who are less religious. The results supported this assumption. The results of the PLS analysis indicated that the b-value and t-value of the relationship between social influence and personal religiosity is ($b=0.63$, $t\text{-value}=20.16$). This significant positive relationship could be related to the Islamic teaching that stresses the importance of obeying those in charge. As stated in the Noble Qur'an,

"O you who believe! Obey Allah and obey the Messenger and those vested with authority (Ulul-Amr) from among you." (Qur'an 4:59).

The interpretation of this verse of the Noble Qur'an refers to the importance of the person listening to those in charge of his or her life, whether those are religious leaders, government representatives or family members. According to Islamic law, to fulfil their religiosity Muslims should obey those in authority. This may account for the importance of social influence in Muslims' lives. A comparison of the results of the quantitative study with those of the qualitative study indicated that both studies support each other. Most of the interviewees in the qualitative study stated that they would involve religious leaders and family member in their banking adoption decision.

H15k: There is a significant positive relationship between consumers' personal religiosity and their need for human interaction.

It was expected that the more religious the person, the more interest he or she will show to interacting with bank employees. The results of quantitative study did not, however, support this assumption. The results indicated a significant negative relationship between personal religiosity and Muslim consumers' need for human interaction. The results showed that the relationship between the two constructs is significant ($b=-0.27$, $t= 5.47$). The result did not support the qualitative study results. It was found in the qualitative study that the more religious the person is the more he/she was interested in interacting with bank employees. This contrasting result between the qualitative and quantitative studies could be related to respondents' understanding the process of interacting with human elements. The scale that has been used to measure consumers' need for human interaction mainly concentrates on the importance of human factors in facilitating consumers' tasks within the bank, but respondents to qualitative studies went beyond bank employees' role in facilitating the tasks to the emotional and social influences of those employees and the importance of the human factor in helping consumers feel trust and confidence during the banking experience.

H15l: There is a significant positive relationship between consumers' personal religiosity and their perception of risk in Internet-only banks.

The results showed that there is positive relationship between Muslim consumer's perception of risk in Internet-only banks and their personal religiosity. This relationship is significant ($b= 0.53$, $t\text{-value} = 14.51$). According to these results, consumers who are more religious perceived Internet-only banks as risky. This significant positive relationship supports John et al. (1986); Gentry et al. (1988); Mills (2000); Fitzgerald

(2004) and Williamson (2007)'s results that indicate that religious people are more risk-averse.

9.6.3 Testing mediating and moderating impacts

After examining the direct path relationships within the research model, the next step was to examine the mediating and moderating effects. In their discussion of the moderator and the mediator variables Baron and Kenney (1986: 1173) distinguish them as,

(a) The moderator function of third variable into subgroup that establish its domains of maximal effectiveness in regard to a given dependent variable, and (b) the mediator function of a third variable, which represents the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest.

The next subsections describe steps followed to test the mediating and moderating impacts within this study model.

9.6.3.1 Testing moderating effects

Baron and Kenney (1986: 1174) describe the moderator as “*a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable*”.

Baron and Kenney (1986: 1175) describe four situations in which moderating effect occurs; these are,

In case 1, both moderator and independent variable are categorical variables; in case 2, the moderator is a categorical variable and independent variable a continuous variable, in case 3, the moderator is a continuous variable and the independent variable is a categorical variable; and in case 4, both variables are continuous variables.

There are several ways to examine the moderating effect in structural models. Two of the most common are: examination using multiple group analysis, and examination using interaction effects. Before adopting any approach, a brief overview of both approaches follows. The multiple group analysis is suggested if either independent or moderator variable is categorical in nature (Henseler and Fassott, 2010). This type is usually used and widely accepted in CB-SEM methods to check moderating effect (Jöreskog, 1971). When multiple group analysis is used with continuous variables, moderators are examined by categorising data samples into subsamples according to the moderating variable and the same PLS is run for both subsamples and the path differences between two groups are compared by examining the significance of a parametric t-test (Chin, 1998). In the other hand, in the interaction effect approach, the moderating effect within the structural path model is always represented with a new structural relationship (Henseler and Fassott, 2010).

Hence, the proposed model needs to be examined with moderating effect not only comprising the main effect consideration (a) and the moderator variable's main effect on criterion variable (b), but also an interaction variable's effect (c) predictor X moderator (Hair et al., 2014). If path (c) differs significantly from zero, it represents the existence of a moderation effect (Baron and Kenny, 1986).

As seen above, two moderating approaches were adopted to test the moderating effects in this study. First, the PLS based interaction term approach was adapted to investigate the impact of the moderator on the influence of independent variable on the dependent variables within the research model presented in figure (9-1). Then the multi-group approach was used to test the moderating effect of religiosity within TAM.

9.6.3.1.1 Testing the moderating impact using the interaction term approach

As has been discussed earlier in this section two approaches to examining the effect of moderation will be used in this study. In this subsection of the study the rationale behind and the procedure of using the interaction term approach is discussed.

Case 4, introduced by Baron and Kenney (1986), best describes the moderating effect in this section of the research. Religiosity, human values, Muslim consumers' willingness to accept religious leaders advice and the importance Muslim consumers give to obtaining Islamic banking through Internet only banks. The reason behind selecting the interaction term approach are: 1) the moderating variables used in this stage of the study are continuously measured variables, and all variables included in the moderating examination process are reflective indicators thereby following Hair et al. (2014), when they state "*the product indicator approach is restricted to setup where the exogenous latent variable and moderator variable are both measured reflectively*" (Hair et al., 2014 : 277).

The objective of performing the interaction term was to confirm that the moderating variable is significantly affecting the relationship between the predicting variable and the dependent variable.

In most of the cases researchers are often faced with continuous moderator variables rather than a categorical moderator variable (Hair et al., 2014) and instead of testing the moderating effect using the interaction term approach, they use the multi-group analyses. According to Hair et al. (2014: 258), the approach that dichotomises was commonly used by researchers "*to transfer the continuous variable into a categorical variable and conduct a multigroup analysis*". The interaction effect approach test of moderating impact is missing in CB-SEM techniques because of the assumption that the correlation between latent variables needs to be zero" (Abbasi, 2011: 299). According to (Hair et al., 2014: 259), "*dividing the data into groups based on the mean or median is*

arbitrary and difficult to achieve when more than one continuous moderator variable is included”. Therefore, testing the moderating influence using the product interaction approach would be much useful when dealing with continuous moderator.

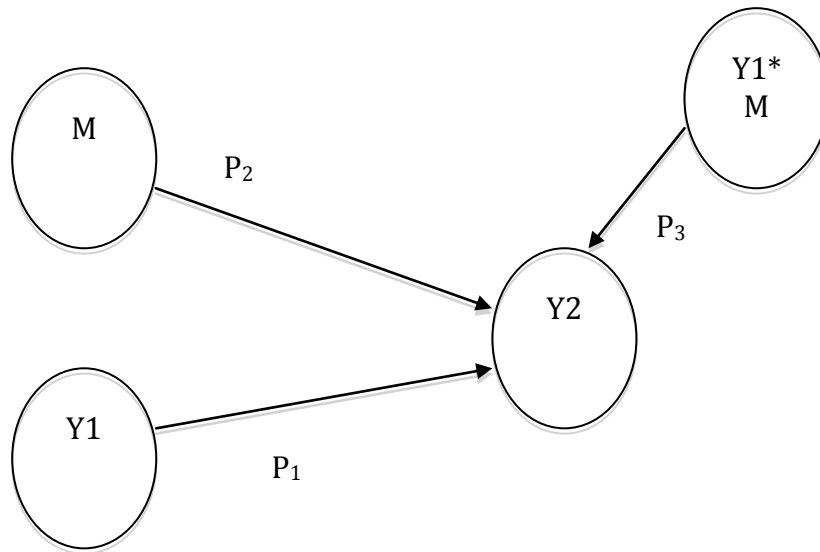


Figure (9-4). Interaction term in moderation, from Hair et al., 2014: 261.

If the researcher is interested in testing the significance of “the main P_1 effect between $Y1$ and $Y2$, the PLS-SEM analysis should be initially executed without a moderator” (Hair et al., 2014: 260). Tables (9-21 a, b) indicates the results of R^2 , CR, AVE, f^2 , q^2 before the introduction of the moderating variables are introduced.

Figure (9-4) indicates that “including the moderator effect requires the specification of the sample effect of the exogenous latent variable...the sample effect of the moderator variable...and the product term...the coefficient P_3 express how the simple effect P_1 ...change when the moderator variable M is increased or decreased by one standard deviation” (Hair et al., 2014: 261).

Two approaches to “create the interaction term” are usually used in PLS-SEM. These approaches are the product indicator approach and the two-stage approach (Hair

et al., 2014: 262), “*The product indicator approach involves multiplying each (mean-centered) indicator of the moderator variable. In the other hand, in the two-stage approach, the main effect model is first estimated without the interaction term*” and then “*the latent variable score of the exogenous latent variable and moderator variable from stage 1 are multiplied to create a single-item measure used to measure the interaction term*” (Hair et al., 2014: 264).

The product indicator approach is not suitable to be use in all the cases to test their moderating effect, for example, “*When the exogenous latent variable or the moderator variable has a formative measurement model, the product indicator approach cannot be applied*” (Hair et al., 2014: 263).

The two-stage approach is more suitable for cases where the researcher is interested in testing the interaction effect while one or more of the measures is formative. However, researchers should be aware that “*the two-stage approach is not restricted to models that include formative measurement approach but can also be used when all constructs are measured by reflective indicators*” (Hair et al., 2014: 265).

According to Henseler and Chin (2010), the product indicator approach is the best choice for hypothesis testing. In the other hand, the two stages are preferable when the major or the only purpose of the analysis is prediction. The goal of this stage of the study is more interested in hypothesis testing, so the product indicator approach was chosen.

The product indicator approach is implemented as follows. First, the researcher “*needs to extend the original model by including the moderator variable*” (Hair et al., 2014: 265). The interaction effects introduced into the research model for this study are human values, willingness to accept religious leaders’ advice, and the importance Muslim consumers give to obtaining Islamic banking through the Internet only banks. The SmartPLS software offers an option to automatically include interaction terms

within product indicators. First, draw a relationship between religiosity and attitude, and between willingness to accept religious leaders and religiosity. Second, right-click in the dependent construct (e.g., attitude) and choose the option “create moderating effect” then specify “willingness to accept religious leaders’ advice” as a moderator variable and religiosity as predictor variable and choose the option “mean center indicator values before multiplication in the interaction effect term generation” in the menu box. SmartPLS will include the interaction term labelled “willingness to accept religious leaders’ advice” in the modelling.

In order to test the significance of the interaction, bootstrapping should be conducted. A bootstrapping procedure with 653 cases and 1000 bootstrap samples using the no sign change option, and mean replacement for missing values as Hair et al. (2014) recommended was conducted in this study. Table (9-32c) shows the results of bootstrapping which are discussed below.

H16: Schwartz human values moderate the relationship between consumers’ attitude to and intention to use Internet-only banks.

H16a: Conservative values (security, traditionalism, and conformity) negatively moderate the relationship between consumers’ attitude to and their intention to use Internet-only banks.

The results showed no significant negative influence of conservative values in the relationship between attitude and behavioural intention. This was true in regard to security ($b=-0.44$, $t\text{-value}= 1.79$) and traditionalism ($b= -0.04$, $t\text{-value}=0.15$), but in the case of conformity ($b=0.62$, $t\text{-value}=2.01$) the results were in contrast to the assumed relationship as they indicated a significant positive relationship rather than the assumed negative influence of conservative values on the relationship between attitudes and behavioural intentions. Therefore, the H16a hypothesis was not supported.

H16b: Self-enhancement values (achievement and power) positively moderate the relationship between consumers' attitudes to and intention to use Internet-only banks.

According to the hypothesis, self-enhancement values are expected to have significant positive influence on the relationship between attitude and behavioural intention. The results indicated that the influence of achievement values on the relationship between attitude and behavioural intention ($b=0.33$, $t\text{-value}= 1.45$) was not significantly positive, also that the result of the power value ($b=-0.08$, $t\text{-value}=0.30$) was not significantly and negative, which contrasted with what has been hypothesised. Therefore, the H16b hypothesis is not supported.

H16c: Self-transcendence values (universalism and benevolence) positively moderate the relation between consumers' attitude to and intention to use Internet-only banks.

The results indicated a negative influence of self-transcendence values: universalism ($b=- 0.35$, $t\text{-value}= 1.39$) and benevolence ($b=- 0.27$, $t\text{-value}= 1.02$) on the relationship between attitude and behavioural intention, which contrasts with which has been assumed. This negative influence is not significant. Therefore, H16c is not supported.

H16d: Openness to change values (stimulation, self-direction, and hedonism) positively moderates the relationship between consumers' attitudes to and intention to use Internet-only banks.

It was assumed that openness to change values would influence the relationship between attitude and behavioural intention positively. The results supported this positive influence. The results of b-values and t-values for each of the openness to change values were as follows: stimulation ($b=0.26$, $t\text{-value}= 1.22$) and self-direction ($b=0.16$, $t\text{-value}= 0.77$). However, in the case of hedonism, where the value was ($b=- 0.13$, $t\text{-value}= 0.54$), the result was negative. This was in contrast with the assumed effect of this value on the attitude-intention relationship. The influence of the openness to change values in the

attitude-usage intention was not significant and the influence of the hedonism value contrasted with the hypothesised influence. Therefore, the H16d hypothesis is not supported.

From the above discussion it could be concluded that human values have non-significant moderating effects on the relationship between consumers' attitudes to IB and their intention to adopt IB.

H17a: The influence of religiosity on attitude will be negatively moderated by consumers' willingness to accept religious leaders' advice.

The results indicate that there is a negative moderating effect of Muslim consumers' willingness to accept religious leaders' advice on the relationship between religiosity and attitude. But the results show that this moderating effect is not significant ($b = -0.14$, $t\text{-value} = 0.77$). Therefore, it could be concluded that the moderating effect of Muslim consumers' willingness to accept religious leaders' advice on the relationship between attitude and religiosity is not supported in this research.

H17b: The influence of religiosity on attitude will be negatively moderated by the importance consumers give to obtaining Islamic banking services through Internet-only banks

The results showed that the moderating effect of the importance Muslim consumers give to obtaining Islamic banking services through Internet-only banks on the relationship between religiosity and attitude is significant ($b = -0.38$, $t\text{-value} = 2.57$). These results support the hypothesised moderating effect regarding the importance consumers give to obtaining Islamic banking services through Internet-only banks.

9.6.3.1.2 Testing the moderating impact using multi-group approach

“Researchers are often interested in comparing PLS path models across two or more groups of data to see whether different parameter estimates occur for each group” (Hair et al., 2014: 244). In order to investigate the effect of religiosity on TAM, the sample was categorised into three religiosity levels: high, moderate, and low. To split the data set the researcher followed Krauss’ (2010) instructions. According to (Krauss, 2010: 10) the three religiosity levels are determined as follows, “To determine the outcome of your results in terms of high, moderate or low, simply sum up each scale (or subscale) and divide by the number of items in that scale.”

Table (9-24). Religious personality level

Variable	Low	Moderate	High
Religious Personality	< 3.03	3.03 – 4.07	> 4.07
Source: Krauss (2010: 10)			

In segmenting samples into subsamples (Rosce, 1975) recommends that each of the result subsamples should not be less than 30 responses. The reason behind this criterion is to allow testing of statistical significance. In the study in hand Rosce’s (1975) criterion was fulfilled. After applying Krauss’ (2010, table, 9-24) procedure to categorise respondents according to their level of religiosity, the numbers of respondents in each of the subsample were: high religiosity (385), moderate religiosity (185), and low religiosity (81). The overall data set was divided into sub-data sets using the ‘categorize variables’ feature of SPSS19. To assess the significance of the differences between religiosity groups in regard to each of TAM variables, F-tests were conducted. Table 9-25 shows the mean, standard deviation and F-value for each variable. It also indicates that there are significant differences in each variable within the three-religiosity levels.

Table (9-25). Statistical control checks at the three religiosity levels.

Religiosity level	PU	BI	PEOU	ATT
Low (n=81) Mean (std dev)	3.04 (1.62)	2.56 (1.48)	2.87 (1.66)	2.77 (1.74)
Moderate (n=185) Mean (std dev)	4.61 (1.59)	4.56 (1.7)	4.85 (1.4)	4.57 (1.77)
High (n=385) Mean (std dev)	5.61 (1.6)	5.12 (1.7)	5.46 (1.5)	5.31 (1.66)
F (p-value)	133.82***	101.77***	147.22***	108.36***
*** P<0.001				

To indicate the source of differences among the three groups a post hoc analysis was conducted. The Scheffe test is a conservative test that is suitable for testing differences among unequal samples. The Scheffe test indicates that there are significant differences in religiosity levels in respect to the four variables at 0.001. Appendix (C-10) presents the results of the Scheffe test.

In this phase of the data analysis Sarstedt et al. (2011)'s instruction for conducting multi-group analysis using PLS can be used. The SEM analysis was conducted in two stages. First, the TAM for the overall database was analysed. This stage was conducted for overall respondents with regard to different levels of religiosity. Second, the TAM was then analysed for each of the religiosity groups. This stage was conducted using the data set of each of the correspondent religiosity levels. The second stage was conducted to assess the effect of religiosity factors on the strength and significance of each of the TAM hypotheses. Figures 9-5a, 9-5b, 9-5c and 9-5d show the standard PLS structural model with the path coefficients and t-values for the TAM tested within the general data set and each of the three with personal religiosity level data sets. The decisions on hypothesis acceptance or rejection were based on t-value > 1.96. A summary of structural parameter values is presented in tables 9-26 and 27.

Sarstedt et al. (2011) state that multi-group analysis with PLS can be conducted through three suggested methods. These are Keil et al. (2000) which is considered a

parametric approach, a permutation-based approach (Chin, 2000), and a confidence led approach (Sarstedt et al., 2011). Keil et al. (2000)'s approach is a popular approach in multi-group analysis in the context of cultural research. Keil et al. (2000) suggest that their hypothesis on cultural differences can be tested by comparing corresponding path coefficients in different cultural settings. Religion is considered to be one of the main cultural components (Terpstra & Sarathy, 2000). Therefore, Keil et al. (2000)'s procedures are applied in order to test the TAM hypothesis in the three personal religiosity levels.

Table (9-26). AVE, R², and Q² of the four data set

	<i>General data</i>			<i>High religiosity</i>			<i>Moderate religiosity</i>			<i>Low religiosity</i>		
	<i>AVE</i>	<i>R²</i>	<i>Q²</i>	<i>AVE</i>	<i>R²</i>	<i>Q²</i>	<i>AVE</i>	<i>R²</i>	<i>Q²</i>	<i>AVE</i>	<i>R²</i>	<i>Q²</i>
BI	0.8	0.39	0.21	0.76	0.28	0.00	0.78	0.12	0.08	0.77	0.66	0.49
ATT	0.74	0.47	0.21	0.62	0.28	0.00	0.76	0.28	0.21	0.80	0.56	0.43
PEOU	0.68	0.00	0.00	0.57	0.00	0.00	0.58	0.00	0.00	0.73	0.00	0.00
PU	0.71	0.37	0.26	0.63	0.19	0.00	0.62	0.06	0.03	0.68	0.76	0.50

Table (9-27). Structural parameter values for the four data sets

TAM1 hypothesis	General data		High religiosity		Moderate religiosity		Low religiosity	
	B	t-value	B	t-value	B	t-value	B	t-value
ATT -> BI	0.34**	5.90	0.25**	4.39	0.32**	3.34	0.41**	7.25
PEOU -> ATT	0.34**	6.35	0.22**	4.04	0.31**	3.62	0.12	1.63
PEOU -> PU	0.61**	15.88	0.43**	9.63	0.25**	2.79	0.87**	87.90
PU -> ATT	0.43**	8.15	0.40**	7.99	0.37**	4.49	0.64**	9.58
PU -> BI	0.35**	6.33	0.36**	6.31	0.05	0.49	0.46**	8.37

** p<0.01; * p<0.05.

Figure (9-5a). TAM for the general data set

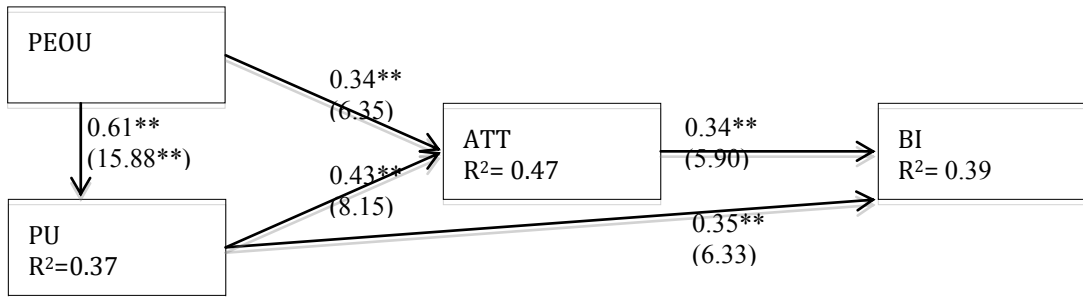


Figure (9-5b). TAM for high religiosity data set

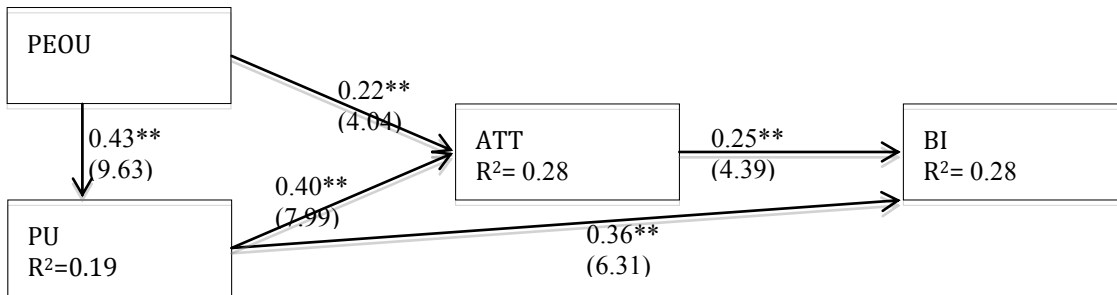


Figure (9-5c). TAM for moderate religiosity data set

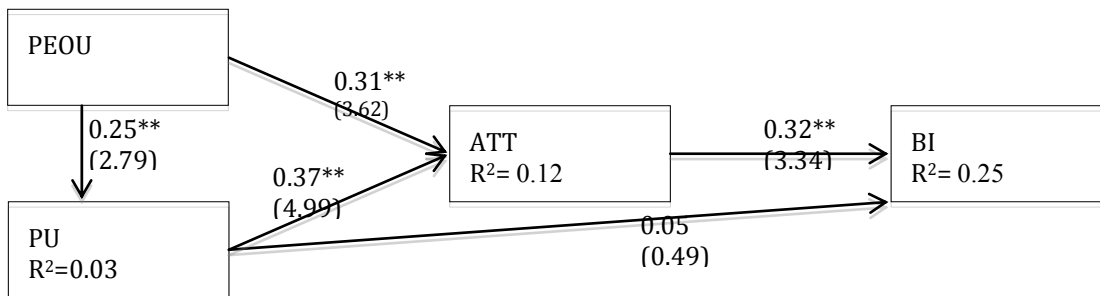
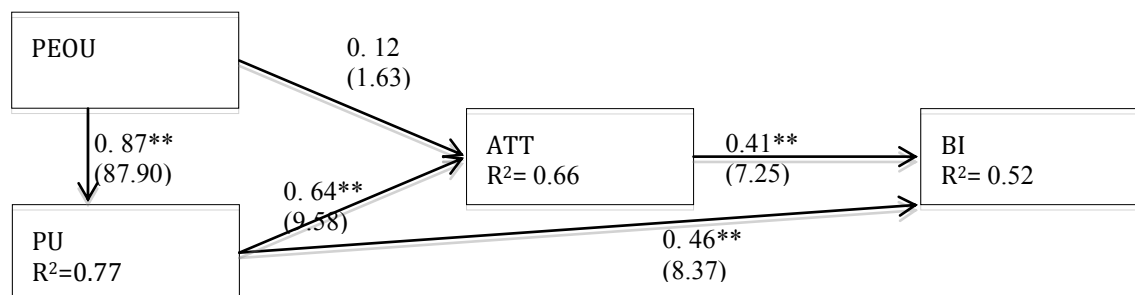


Figure (9-5d) TAM for low religiosity data set.



The results in table 9-26 show the AVE, R^2 , and Q^2 for the TAM model tested within the four data sets (general, high religiosity, moderate religiosity, low religiosity). The results of AVE are above the 0.50 for all four TAM constructs in all of the data sets. The R^2 results in table 9-26 indicate that the exploratory power of attitudes, PEOU, and PU are the highest in the low religiosity data set. Within the low religiosity data set, attitude, PEOU, and PU explain 0.52 of the variance of intention compared to 0.39, 0.28, and 0.25 of the variance in intention as explained when the general, high, and moderate data sets were used. With regards to attitude, the low religiosity data set showed the highest R^2 among the other data sets. Also in regard to R^2 for PU, the low religiosity score was the highest. On the other hand, table (9-26) showed the results of Q^2 . The Q^2 helped in assessing the ability of each variable to contribute to the predictability of the model. The higher the Q^2 , the more contribution the variable adds to model predictability. According to the results of Q^2 in table (9-26), all TAM variables were more than zero in all of the four data sets that referred to the predictability of all variables as high. But the Q^2 of TAM variables were the highest in the low religiosity data set.

Table (9-28). Structural comparison of the three religiosity levels

	High-low		High-moderate		Moderate-low	
	t-value	P	t-value	P	t-value	P
ATT -> BI	1.37	0.09	0.75	0.23	1.11	0.13
PEOU -> ATT	0.93	0.18	1.17	0.12	2.38	0.01
PEOU -> PU	4.41	0.00	2.25	0.01	8.95	0.00
PU -> ATT	2.28	0.01	0.39	0.35	4.10	0.00
PU -> BI	0.82	0.21	3.23	0.00	4.55	0.00
** p<0.01; * p<0.05						

In order to compare the strength of significant TAM hypotheses between the

$$t = \frac{Path_{sample_1} - Path_{sample_2}}{\left[\sqrt{\frac{(m-1)^2}{(m+n-2)} * S.E.^2_{sample1} + \frac{(n-1)^2}{(m+n-2)} * S.E.^2_{sample2}} \right] * \left[\sqrt{\frac{1}{m} + \frac{1}{n}} \right]}$$

Notes: The T value estimation implements the formula above, provided and discussed by Keil et al. (2000)

different data sets, the first step would be to test the TAM hypothesis within each of the general data sets along with each of the three religiosity data sets. The results in table 9-28 show the path coefficients for each TAM hypothesis and the t-value for each path. The results in table 9-28 present the value of β and the t-value of each of the TAM paths in each of the four data sets.

Table (9-28) show that almost all of the hypothetical TAM paths can be supported with $p < 0.01$ in two of the data sets (general and high religiosity). In regard to the moderate religiosity data set, one of the TAM hypotheses is not supported. The relationship between perceived usefulness and BI is not significant when the TAM is tested within the moderate religiosity data set. In the low religiosity set the ease of use -> attitude is not supported.

Assessments of religiosity sensitivity for paths were carried out for all of the TAM hypotheses. Table (9-28) shows the results of the statistical comparison for the three religiosity levels. This followed Keil et al. (2000)'s instructions to calculate the t-value for each of the TAM paths in the four data sets. Table 9-28 shows that there is no significant difference in the strength of the relationship between attitude and intention. This refers to the fact that these paths are not sensitive to changes in religiosity level.

On the other hand, the results in table 9-28 show that the path coefficient from perceived ease of use to attitude in the structural model for low religiosity was significantly stronger than the corresponding path coefficient in the structural model for moderate religiosity ($t= 2.38, p<0.01$). The results in table (9-28) further indicate that the path coefficient from perceived ease of use to perceived usefulness in the structural model for low religiosity was significantly stronger than the corresponding path coefficient in the structural model for moderate and high religiosity ($t= 4.64, p<0.01$), ($t= 2.25, p<0.01$) and ($t= 8.95, p< 0.05$) and that the path coefficient from usefulness to attitude in the structural model for low religiosity was significantly stronger than the corresponding path coefficient in structural model for the high religiosity ($t= 2.28, p< 0.01$), ($t= 4.10, p<0.01$). Also the path coefficient from perceived usefulness to BI in the structural model for low religiosity was significantly stronger than the corresponding path coefficient in the structural model for moderate religiosity ($t= 3.23, p<0.01$) and ($t= 4.55, p<0.01$).

From these findings, it could be concluded that the effect of perceived ease of use on attitude is stronger in the case of consumers with moderate religiosity. In addition, the effect of perceived usefulness on attitude is stronger in the case of consumers with low religiosity. Moreover, the effect of perceived usefulness on BI is stronger in the case of consumers with low religiosity. This indicates that the TAM predictability is stronger among low religiosity consumers.

9.6.3.2 Test of mediation effects

Figure (9-6) shows, “Mediation focuses on a theoretically established direct relationships...between Y1 and Y3, as well as on additional theoretically relevant component Y2, which indirectly provides information on the direct effect via its indirect effect...from Y1 to Y3 via Y2. Thereby, the indirect relationship via Y2 mediator affects the direct relationship from Y1 to Y3 in the mediator model” (Hair et al., 2014: 219).

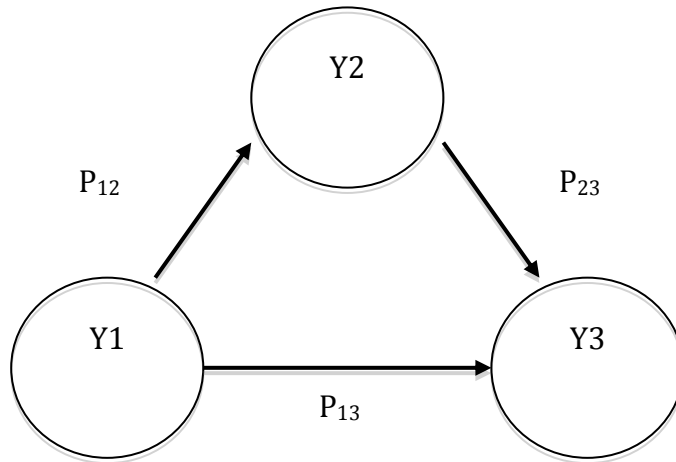


Figure (9-6), General Mediator Model, from Hair et al., 2014: 220

A variable can be considered as a mediator when it meets the conditions stated by (Baron and Kenny, 1986:117),

To establish mediation, the following condition must hold: first, the independent variable must affect the mediator in the first equation; second, the independent variable must be shown to affect the dependent variable in the second equation; and third, the mediator must affect the dependent variable in the third equation.

The common approach to testing mediating effects is the Sobel test (Sobel, 1982). Hair et al. (2014: 233) believe that the Sobel test is not always suitable to test mediating effect due to its distributional assumptions. “*this test relies on distributional assumptions, which usually do not hold for the indirect effect $p_{12}.p_{23}$...* Furthermore, the

Sobel test requires unstandardized path coefficients as input for the test statistic and lack statistical power, especially when applied to small sample sizes.”

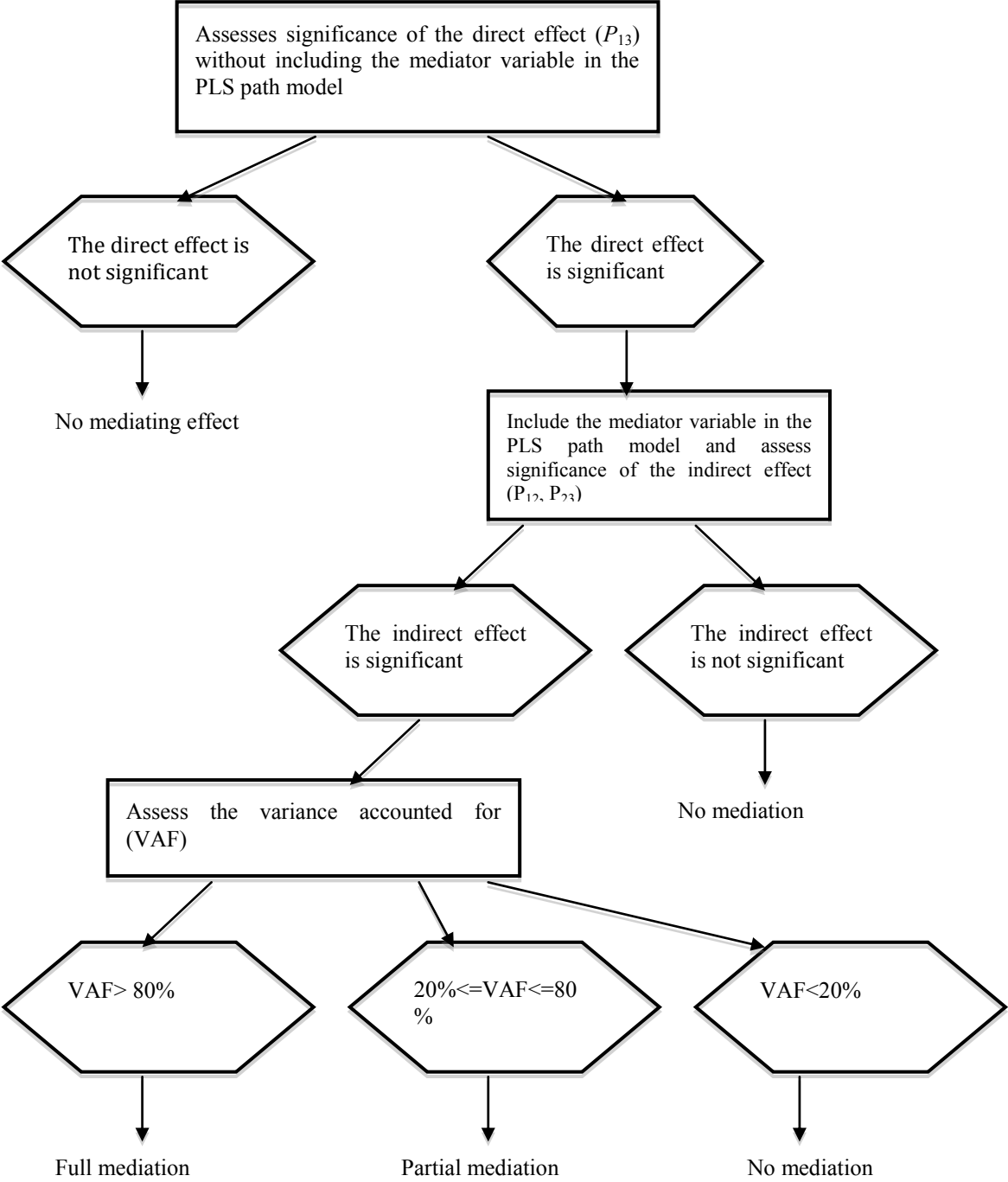


Figure (9-7). Mediator Analysis Procedure in PLS-SEM

In case the Sobel test assumptions couldn't be met, Hair et al. (2014: 233) recommended researchers to follow Preach and Hayes' (2004, 2008) approach and bootstrap the sampling distribution of the indirect effect. They stated:

When testing mediating effects, researchers should rather follow Preacher and Hayes (2004, 2008) and bootstrap the sampling distribution of the indirect effect, which works for simple and multiple mediator models... bootstrap make no assumptions about the shape of the variables' distribution or the sampling distribution of the statistic and can be applied to small sample sizes with more confidence. The approach is therefore perfectly suited for the PLS-SEM method. In addition, the approach exhibits higher levels of statistical power compared with the Sobel test.

Figure (9-7) illustrates the procedures to examine mediation as Hair et al. (2014) recommended. The first step to test the mediator effect in the research model as indicated in (figure 9-7), is when the researcher assesses the significant direct effect without including the mediator variable. Table (9-29) shows the direct relationships that were significant before the introduction of the mediators and after the introduction of the mediators.

Path	β	T	Significant
PEOU -> ATT	0.27	4.73	0.000
REL -> ATT	0.13	3.07	0.001
REL -> PEOU	0.32	8.31	0.000
REL -> BI	0.01	0.30	Not significant
REL -> RISK	0.53	14.41	0.000
REL -> SOCIAL	0.63	19.53	0.000
REL -> TRUST	0.20	4.78	0.000
RISK -> BI	0.10	1.96	0.05
SOCIAL-> BI	0.14	2.48	0.01
TRUST -> BI	0.13	2.31	0.01
REL -> BI (Before the introduction of mediators)	0.1583	3.9404	0.001
REL -> ATT (Before the introduction of mediators)	0.3821	8.7428	0.000

Following Hair et al. (2014: 226), instructions the size of indirect effect is measured using the t-value resulting from bootstrapping 653 observations per sample, 1000 subsample. The significance of the indirect effect is a gain tested using bootstrapping results with (i.e., 653 observations per sample, 1000 subsample, and no sign change). In order to obtain the bootstrapping results for the product of two path coefficients, the results table of the bootstrap subsample obtained from the SmartPLS programme was copied and pasted into Microsoft Excel. A new column is created in Excel for the indirect effect via the mediator. For example, the indirect effect is the product of the direct effect between religiosity and social influence as well as between social influence and behavioural intention; the indirect effect was calculated for the four mediator variables. The product of these direct effects needs to be computed for each of the 1000 subsamples. Then in order to evaluate the significance of the indirect relation, the empirical t-value of indirect value should be divided by the bootstrapping standard error. The bootstrapping standard deviations were calculated for each of the column produced in the previous step using Excel programme. This was done by using the function of STDEV in MS Excel. According to Hair et al. (2014), the bootstrapping standard deviation equals the bootstrapping standard error. As table (9-30) shows the standard error for the first indirect path (religiosity <-> social*social<-> behavioural intention) is 0.04. The empirical t-value of the indirect effect of religiosity on behavioural intention is $(0.63*0.14)/0.04=2.47$ which is significant.

Table (9-30). The significance of the indirect effect of Religiosity

Path	β	Path	β	$\beta*\beta$	Standard Deviation (STDEV)	$\beta*\beta/STDEV$	Significant
REL -> SOCIAL	0.63	SOCIAL -> BI	0.14	0.09	0.04	2.47	0.05
REL -> ATT	0.27	PEOU -> ATT	0.32	0.09	0.02	4.42	0.000
REL -> RISK	0.53	RISK -> BI	0.10	0.05	0.03	1.96	0.05
REL -> TRUST	0.20	TRUST -> BI	0.13	0.03	0.02	1.48	Not significant

Table 9-30, indicates that all empirical t-values of the indirect effect are significant except for the indirect effect through perceived trust. From table (9-30), we

can indicate that social influence and perceived risk are mediating the relation between religiosity and behavioural intention. The introduction of these two variables into the model weakens the relation between religiosity and behavioural intention and makes it insignificant as table (9-29) shows. Table (9-30) also shows that PEOU mediates the relation between religiosity and attitude but the introduction of PEOU did not weaken the relation between these two variables in a significant way as table (9-29) shows that the relation between religiosity and attitude is still significant.

An additional step should be taken to determine the strength of mediation of each of these three variables. The strength of mediation can be assessed through calculating the VAF for each mediator. “*VAF equal the direct effect divided by the total effect*” (Hair et al., 2014: 225). The VAF was calculated for the three variables (social influence, perceived risk and PEOU) that show significant mediating effect. Perceived trust was not included in the VAF assessment as the results in table (9-29) indicate that it did not have a significant mediation effect. “*The significance of each individual path P_{12} and P_{23} is requirement for this condition. Only if the paths turn out to be significant after the bootstrapping procedure has been run can we assess if their product, which represents the indirect effect, is significant, the mediator absorbs some of the direct effect*” (Hair et al., 2014: 225).

Table (9-31). The strength of mediation of the mediator variables			
Mediator		VAF	Mediation
PEOU		0.39	Partial
RISK		0.76	Partial
SOCIAL		0.88	Full
VAF=($P_{12} * P_{23}$)/($P_{12} * P_{23} + P_{13}$), from Hair et al. (2014: 225).			

The variance accounted for VAF determines the size of the indirect effect in relation to the total effect $VAF = (P_{12} * P_{23}) / (P_{12} * P_{23} + P_{13})$. “*Thereby, we can determine the extent to which the variance of the dependent variable is directly explained by the*

independent variable and how much of target construct's variance is explained by the indirect relationship via mediator variable” (Hair et al., 2014: 225).

The VAF is described as low if the indirect effect is significant but does not absorb any of the independent latent variable's effect on the dependent variable. This case occurs when the introduction of the mediator causes a slight decline in the high direct relationship between variables. *“In this situation the VAF would be less than 20%, and one can conclude that (almost no mediation take place)”* (Hair et al., 2014: 225). In contrast, when the VAF has very large outcome of above 80 percent, it described as a full mediation. In the other hand, if the VAF is larger than 20 percent and less than 80 percent, this case is characterised as partial mediation. (Hair et al., 2014: 225). Table (9-31) shows that the VAF value of PEOU is 39 percent, which indicates that this variable is partially mediating the relationship between religiosity and attitude. The same for perceived risk as table (9-31) show that the VAF= 76 percent which is considered high but still did not exceed the 80 percent, so, it is conceded as partially mediating the relationship between religiosity and behavioural intention. On the other hand table (9-31) indicates that the VAF of social influence is 88 percent which indicates that it fully mediating the relationship between religiosity and behavioural intention and causing a high effect in this relationship.

H18: Perceived risk, social influence, and perceived trust mediate the relationship between personal religiosity and behavioural intention.

Table (9-30) shows that perceived risk mediates the relationship between personal religiosity and usage intention. This mediating effect is significant at 0.05. Also table (9-31) indicates that social influence mediates the relationship between personal religiosity and usage intention. This mediating effect is significant at 0.05. This also shows that perceived trust did not significantly mediate the relationship between personal religiosity and usage intention. Therefore, it could be concluded that H18 is supported for perceived risk and social influence but not for perceived trust, as the mediating effect of

perceived trust was not significant. Table 9-31 indicates that social influence are fully mediating the relationship between personal religiosity and BI and that perceived risk partially mediating the relationship between personal religiosity and BI.

H19: Perceived ease of use mediates the relationship between personal religiosity and attitudes to Internet only banks.

As has been assumed, the perceived ease of use significantly mediates the relationship between personal religiosity and Muslim consumers' attitudes to Internet banks. The results in table 9-30 indicated that the mediating effect of perceived ease of use in the relationship between personal religiosity and consumers' attitudes was significant. Table 9-31 shows that perceived ease of use is partially mediating the relationship between personal religiosity and attitude. Therefore, it could be concluded that H19 is supported.

Table (9-32a). Summary of the hypotheses along with the decisions for acceptance or rejection

Hypothesis	β	t-value	Supported/ not supported
H1: Human values influence consumers' behavioural intention:			
H1a: Conservative values are negatively related to behavioural intention			
H1a1: Security is negatively related to behavioural intention.	0.35	1.95	Not supported
H1a-2: Tradition is negatively related to behavioural intention.	0.14	0.84	Not supported
H1a-3: Conformity is negatively related to behavioural intention.	-0.58**	2.67	Supported
H1b: Self-enhancement values are positively related to behavioural intention.			
H1b-1: Achievement is positively related to behavioural intention.	-0.22	1.38	Not supported
H1b-2: Power is positively related to behavioural intention.	-0.02	0.11	Not supported
H1c: Self-transcendence values are positively related to behavioural intention:			
H1c-1: Universalism is positively related to behavioural intention.	0.25	1.49	Not supported
H1c-2: Benevolence is positively related to behavioural intention.	0.20	1.12	Not supported
H1d: Openness to change values are positively related to behavioural intention:			
H1d-1: Stimulation is positively related to behavioural intention.	-0.16	1.05	Not supported
H1d-2: Self-direction is positively related to behavioural intention.	-0.14	0.92	Not supported
H1d-3: Hedonism is positively related to behavioural intention.	0.17	0.97	Not supported
H2: Human values influence consumers' attitudes:			
H2a: Conservative values are negatively related to attitude:			
H2a-1: Security is negatively related to attitude.	0.10	1.31	Not supported
H2a-2: Tradition is negatively related to attitude.	0.00	0.04	Not supported
H2a-3: Conformity is negatively related to attitude.	0.02	0.30	Not supported
H2b: Self-enhancement values are positively related to attitude:			
H2b-1: Achievement is positively related to attitude.	-0.14	1.85	Not supported
H2b-2: Power is positively related to attitude.	0.10	1.39	Not supported
H2c: Self-transcendence values are positively related to attitude:			
H2c-1: Universalism is positively related to attitude.	0.07	0.88	Not supported
H2c-2: benevolence is positively related to attitude.	-0.09	1.07	Not supported
H2d: Openness to change values are positively related to attitude:			
H2d-2: Hedonism is positively related to attitude.	0.05	0.80	Not supported
H2d-3: Self-direction is positively related to attitude.	-0.18**	2.67	Not supported
H3: Personal religiosity is related to human values:	0.04	0.65	Not supported
H3a: Personal religiosity is positively related to conservative values:			
H3a-1: Religiosity is positively related to security.	0.11*	2.37	Supported
H3a-2: Religiosity is positively related to tradition.	0.12**	3.23	Supported
H3a-3: Religiosity is positively related to conformity.	0.12**	3.03	Supported
H3b: Personal religiosity is negatively related to Self-enhancement values:			
H3b-1: Personal religiosity is negatively related to achievement.	0.14***	3.49	Not Supported
H3b-2: Personal religiosity is negatively related to power.	0.14***	3.72	Not Supported
H3c: Personal religiosity is positively related to Self-transcendence values:			

*** p< 0.001; ** p<0.01; * p<0.05

Table (9-32b). Summary of the thesis' hypotheses along with the decision of acceptance or rejection

Hypothesis	β	t-value	Supported/not supported
H3c-1: Personal religiosity is positively related to universalism.	0.11**	3.07	Supported
H3c-2: Personal religiosity is positively related to benevolence.	0.13***	3.35	Supported
H3d: Personal religiosity is negatively related to Openness to change values:			
H3d-1: Personal religiosity is negatively related to stimulation.	0.17***	4.29	Not supported
H3d-2: Personal religiosity is negatively related to self-direction.	0.15*	2.43	Not supported
H3d-3: Personal religiosity is negatively related to hedonism.	0.12**	3.13	Not supported
H4a: Awareness has a positive relation to trialability.	0.44***	13.79	Supported
H4b: Awareness is positively related to behavioural intention.	0.12**	2.90	Supported
H4c: Awareness has a positive relation to compatibility.	0.26***	6.56	Supported
H4d: Awareness has a negative relation to perception of risk.	-0.13***	3.37	Supported
H4d: Awareness has a positive relation to perception of ease of use.	0.19***	5.17	Supported
H5a: Social influence has a positive effect on need for human interaction.	-0.15*	2.67	Not Supported
H5b: Social influence is positively related to behavioural intention.	0.13*	2.13	Supported
H6a: Previous technology experience is positively related to perception of ease of use.	0.38***	8.79	Supported
H6c: Previous technology experience is positively related to observability.	0.55***	16.58	Supported
H6d: Previous technology experience is positively related to perceived trust.	0.21***	4.31	Supported
H6b: Previous technology experience is positively related to perception of usefulness.	0.26***	5.15	Supported
H7a: Innovativeness is negatively related to the need for human interaction.	-0.28***	5.80	Supported
H7b: Innovativeness is positively related to perceived usefulness.	0.26***	4.43	Supported
H8a: Trialability is positively related to behavioural intention.	0.05	0.85	Not supported
H8b: Compatibility is positively related to behavioural intention.	0.12	1.87	Not Supported
H8c: Observability is positively related to behavioural intention.	0.19***	3.39	Supported
H9a: Compatibility is positively related to usefulness.	0.019***	3.67	Supported
H9b: Trialability is positively related to usefulness.	-0.01	0.19	Not supported
*** p< 0.001; ** p<0.01; * p<0.05			

Table (9-32c). Summary of the thesis hypotheses along with the decision of acceptance or rejection

Hypothesis	β	t-value	Supported/ not supported
H10: Attitude is positively related to behavioural intention.	0.05	0.45	Not supported
H11a: Perceived Usefulness is positively related to behavioural intention.	0.06	0.97	Not supported
H11b: Consumers' perceptions of usefulness have a positive relation with their attitudes.	0.35***	6.51	Supported
H11c: Consumers' perceptions of ease of use have a positive relation to their attitudes.	0.26***	4.73	Supported
H11d: Perceived ease of use is positively related to perceived usefulness.	0.04	0.80	Not Supported
H11e: Perceived ease of use is positively related to perceived trust.	0.32***	5.46	Supported
H11f: Perceived usefulness is positively related to perceived trust.	0.10*	2.46	Supported
H12: Consumers' preferences of human interactions have a negative relation to their attitude to adoption.	-0.09*	2.23	Supported
H13a: Perceived risk is negatively related to behavioural intention.	0.08*	1.97	Not Supported
H13b: Perceived risk is negatively related to usefulness.	0.05	1.74	Not Supported
H14: Perceived trust is positively related to behavioural intention.	0.11*	2.04	Supported
H15a: Personal religiosity is positively related to behavioural intention.	0.00	0.07	Not supported
H15b: Religiosity is positively related to attitude.	0.37***	3.61	Supported
H15c: Religiosity is negatively related to innovativeness.	0.60***	18.23	Not Supported
H15d: Religiosity has positive relationship with Muslims' perceptions of trust.	0.20***	4.70	Supported
H15e: Religiosity has a positive relation to consumers' perceptions of ease of use.	0.32***	8.23	Supported
H15f: Personal religiosity is positively related to important Muslim consumers adopting Islamic banking through Internet-only banks.	0.21***	5.33	Supported
H15g: The importance Muslim consumers give to obtaining Islamic banking through Internet-only banking is negatively related to attitude.	0.28*	2.31	Not supported
H15h: Personal religiosity is positively related to willingness to listen to religious scholars' advice.	0.09**	2.65	Supported
*** p< 0.001; ** p<0.01; * p<0.05			

Table (9-32d). Summary of the thesis' hypotheses along with the decision of acceptance or rejection

Hypothesis	β	t-value	Supported/ not supported
H15i: Muslim consumers' willingness to listen to religious scholars' advice is negatively related to their attitude.	0.20	1.22	Not Supported
H15j: Religiosity has a positive relation to social influence.	0.63***	20.16	Supported
H15k: Religiosity has a positive relationship with consumers' need for human interaction.	-0.27***	5.47	Not Supported
H15l: Religiosity has positive relationship with Muslims' perceptions of risk.	0.53***	14.51	Supported
H16: Human values moderate the relationship between attitude and behavioural intention.			
H16a: Conservative values positively moderate the relationship between attitude and behavioural intention.			
H16a-1: Security negatively moderates the relationship between attitude and behavioural intention.	-0.44	1.79	Not supported
H16a-2: Tradition is negatively moderate the relationship between attitude and behavioural intention.	-0.04	0.15	Not supported
H16a-3: Conformity negatively moderates the relationship between attitude and behavioural intention.	0.62*	2.01	Not supported
H16b: Self-enhancement values positively moderate the relationship between attitude and behavioural intention.			
H16b-1: Achievement positively moderates the relationship between attitude and behavioural intention.	0.32	1.46	Not supported
H16b-2: Power positively moderates the relationship between attitude and intention:	0.00	0.01	Not supported
H16c: Self-transcendence values positively moderate the relationship between attitude and behavioural intention.			
H16c-1: Universalism positively moderates the relationship between attitude and behavioural intention.	-0.35	1.39	Not supported
H16c-2: Benevolence positively moderates the relationship between attitude and behavioural intention.	-0.27	1.02	Not supported
H16d: Openness to change values positively moderates the relationship between attitude and behavioural intention.			
H16d-1: Stimulation positively moderates the relationship between attitude and behavioural intention.	0.26	1.22	Not supported
*** p< 0.001; ** p<0.01; * p<0.05			

Table (9-32e). Summary of the thesis' hypotheses along with the decision of acceptance or rejection

Hypothesis	β	t-value	Supported/ not supported
H16d-3: Hedonism positively moderates the relationship between attitude and behavioural intention.	-0.13	0.54	Not supported
H17a: The influence of religiosity on attitude will be negatively moderated by a willingness to listen to religious scholars' advice.	-0.14	0.77	Not supported
H17b: The influence of religiosity on attitude will be negatively moderated by the importance given to obtaining Islamic banking.	-0.38*	2.57	Supported
H18: Perceived risk, social influence, and perceived trustworthiness mediate the relationship between personal religiosity and usage behavioural intention.			
H18a: Perceived risk mediates the relationship between religiosity and behavioural intention.			Supported
H18b: Social influence mediates the relationship between religiosity and behavioural intention.			Supported
H18c: Perceived trustworthiness mediates the relationship between religiosity and behavioural intention.			Not supported
H19: Perceived ease of use mediates the relationship between religiosity and attitude.			Supported
*** p< 0.001; ** p<0.01; * p<0.05			

9.7 Open-ended questions analysis

The results showed that a relatively low percentage of participants (69 out of 653) respondents answered the open-ended questions. This low response rate may be related to the respondents feeling tired of filling in the questionnaire or feeling that answering such questions was beyond their knowledge. The analysis of the answers of the qualitative questions was carried out using a textual analysis technique. After the coding all the answers, the next step was to classify these answers into the main groups.

The results of the textual analysis are presented in table (9-33). In respect to the first question, which aimed to obtain respondents' suggestions in regard to the factors that could improve Internet-only banks services, table 9-33 indicates that respondents believed that increasing the online banking services' security was the most important issue that needed to be improved, and 20 percent referred to security as an important issue that needed to be improved in Internet-only banks, followed by the need to

increase consumers' awareness of Internet-only banks. 16 percent of the respondents believed that raising awareness of these uses and the benefits, along with establishing training for consumers in how to use the Internet-only banks, would be very useful. Allowing consumers to become involved in more services and giving them more flexibility in methods of payment were seen by respondents as important issues. 14 percent of the responses believed that allowing them a full range of online banking services would improve their perceptions of the quality of Internet-only banks. The respondents also thought that building trust with consumers is very important. 13 percent of the responses stressed the importance of trust as a factor in improving Internet-only banking services. They referred to the trust in the bank and trust in technology as two dimensions of trust the banks should pay attention to. The respondents also indicated that ease of use, ease of navigation and a better designed website were very important in improving the Internet-only banks from the consumers' perspective.

Also, the physical existence of the bank was seen as being important in building trust in the Internet-only banks. 4 percent of the respondents believed that allowing consumers to contact the Internet-only banks in person in emergencies was important, and that allowing consumers to contact the Internet-only banks through an official headquarters or at least through an office within the country would increase trust considerably. Allowing consumers more guarantees, providing Islamic banking solutions, and allowing instant technical support for consumers were mentioned by 4 percent of the respondents. In addition 3 percent of the responses indicated that allowing fast performance in conducting banking transactions was an important factor that could enhance the performance of Internet-only banks.

In regard to what the respondents think is important in encouraging them to use Internet-only banks, 41 percent of the respondents indicated that security, credibility and information privacy were the most important factors in deciding whether to use Internet-only banks. Respondents believed that Internet-only banks should provide their

consumers with secure websites and guarantee the privacy of the information of their consumers.

Table (9-33). Summary of the frequencies of the responses for open-ended questions

Q1: Do you have any suggestions about how Internet-only banks can be improved?	No	%
1. Security	15	0.22
2. Social influence, raising awareness, and providing training	11	0.16
3. Flexibility in payment systems, more services and banking options	10	0.14
4. Trust	9	0.13
5. Ease to navigate, better design for bank website	7	0.10
6. Visibility of the bank (offices that represent the bank)	6	0.09
7. More grantees provided for consumers	3	0.04
8. Religious factors (complying with Islamic law)	3	0.04
9. Use the bank website to solve clients problems, instant chat with bank clients through bank website	3	0.04
10. Fast performance	2	0.03
Q2: Is there anything can be done to encourage you to use the Internet-only banks?	No	%
1. Security, credibility, and privacy	28	0.41
2. Ease of use	13	0.19
3. Provide clients with full banks services online	10	0.14
4. Banks should give incentives to use it rather than using traditional banks	6	0.09
5. Other people whom I know use it and trust it	4	0.06
6. No human interference with clients account information	3	0.04
7. Bank should have a good reputation locally and internationally	2	0.03
8. Fast response	2	0.03
9. Providing investment opportunities	1	0.01
Q3: Is there any other reason that may discourage you from using Internet-only banks?	No	%
1. Security and privacy	30	0.43
2. Perceived complexity (not easy to use)	9	0.13
3. Low quality in both Internet banking and Internet services	8	0.12
4. Fear of trying new things	7	0.10
5. Do not trust Internet banks	6	0.09
6. Bad reputation of Internet or bad Internet banking experience	4	0.06
7. Lack of experience with technologies	2	0.03
8. Religious reasons (fear it may contradict with my religious beliefs)	2	0.03
9. There is no need for such a service	1	0.01

They also stressed the importance of credibility in all the transactions to be accomplished through the banks websites. 19 percent of the responses mentioned that the ease of use of the Internet-only banks was important in encouraging them to use these banks. 14 percent indicated that allowing them to access to full range of bank services online would encourage them to use Internet-only banks. 9 percent thought that giving incentives to those who use the Internet-only banks would encourage them to switch to such banks. 6 percent of the responses stressed the importance of others' opinions in encouraging them to use Internet-only banks. In contrast with what was expected, table 9-33 showed that 3 percent of the respondents believed they would use Internet-only banks if these banks guaranteed that there would be no human interference with their bank accounts. Respondents also thought that a positive bank reputation, fast responses and the provision of investment opportunities would encourage them to use Internet-only banks.

In regard to the third open-ended question, which is concerned with the factors that may inhibit banking services consumers from using Internet-only banks, table 9-33 indicates that security and privacy reasons are the most important reasons, as mentioned by 43 percent of the responses to this question. The perceived complexity of Internet-only banks was also considered an important factor that might discourage them from using such banks. In addition, the low quality of both Internet-only banks services and the quality of the Internet connection were of concern, and 12 percent of the respondents indicated that the quality issue might discourage them from using such banks. 10 percent of the respondents believe that they were not innovative enough to try new technology, as they feared using new technologies. This fear would discourage them from using Internet-only banks. In addition, 9 percent of the respondents thought that Internet-only banks were not trustworthy and this discouraged them from using such banks.

Previous bad experiences or the bad reputation of online banking were presented by 6 percent of the respondents as reasons that might discourage them from using Internet-only banks. Also, a lack of technological experience and religious caution was referred to by 3 percent of the respondents. A minority of 1 percent of the respondents believed that they did not need such banking methods and thus were unlikely to use them.

In summary, the responses to the open-ended questions confirmed the importance of perceived trust and perceived ease of use, perceived usefulness, while security and privacy were the key dimensions of risk. Observability and religious factors were seen as being likely to encourage or inhibit consumers from using Internet-only banks. The responses also shed light on other factors that have not been mentioned in the current study, such as the importance of the bank's reputation, incentives and guarantees provided by the bank along with the bank's website design and the technical support and training they provided to their consumers. Respondents considered these important factors that could affect their intention to use Internet-only banks.

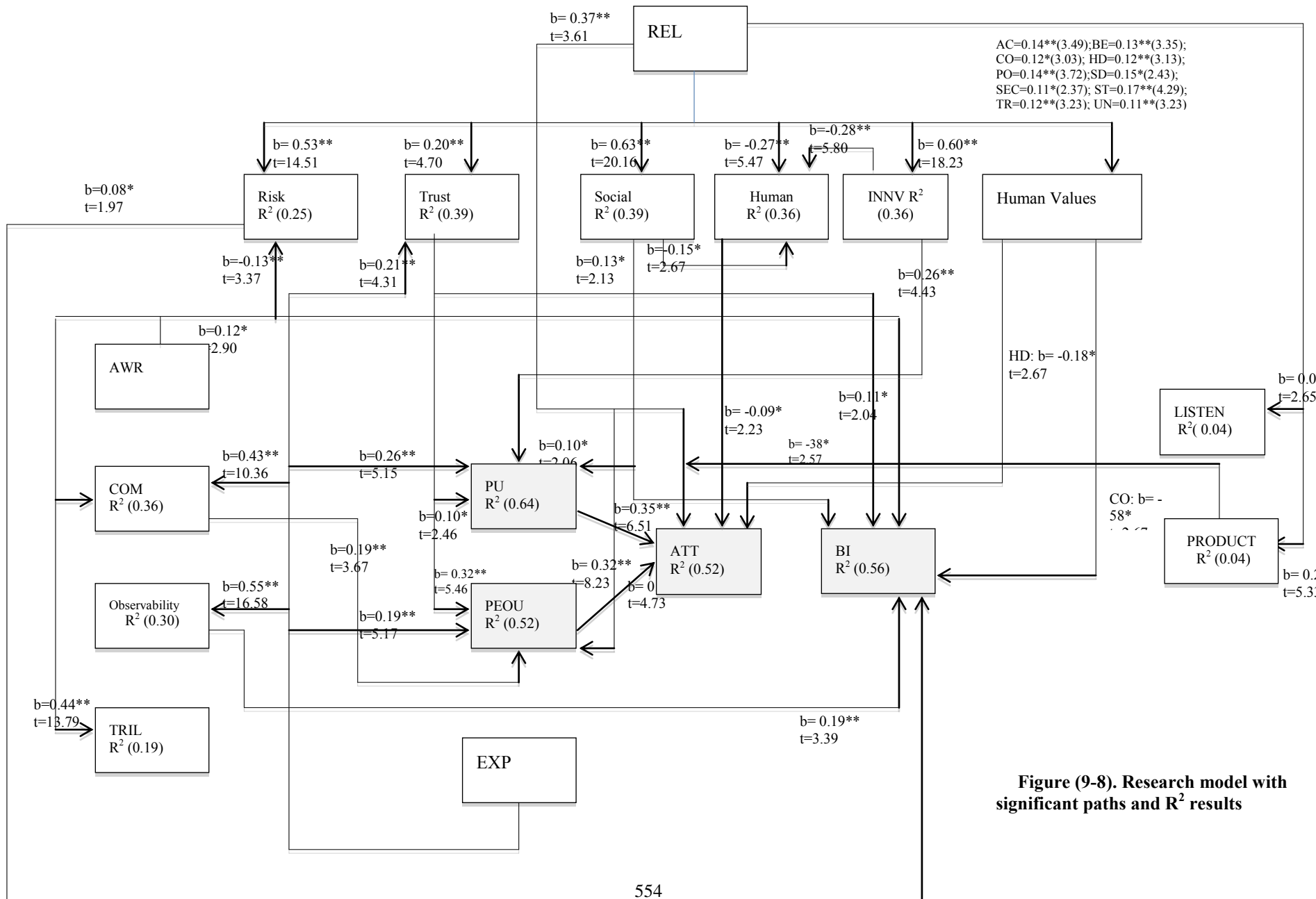


Figure (9-8). Research model with significant paths and R² results

9.8 Summary

This chapter has discussed data analysis, hypothesis testing and conclusions in regards to the quantitative study of the research. The data analysis included sample description analysis, structural equation modelling (SEM) and finally an analysis of the open-ended questions. The chapter began by presenting the steps of data analysis, followed by a discussion of data preparation and screening, followed by demographic analysis of the sample and a discussion of the differences and associations of Muslim consumers' preferences for each of the e-banking methods discussed. Moreover, the importance those Muslim consumers give to religious leaders' opinions and to Islamic banking services were also discussed. There was then some discussion of the reliability and validity of the research measurements. The PLS structural model analysis and the results of the research hypothesis were evaluated. The moderating and mediating effects of the research model were also discussed.

Some of the results of this current research fail to support the relationship between constructs. As in the case of the relationship between human values -> BI, the relationship between human values -> consumers' attitudes to Internet-only banks, personal religiosity -> BI, and the relationship between consumers attitudes to Internet-only banks, PU, trialability, compatibility -> their intention to use these type of banks. Also, the relationship between social influences -> need for human interaction and trialability -> PU, PEOU -> PU. Muslim consumers' willingness to accept religious leaders advice -> attitude, the moderating influence of human values on the relationship between attitude and BI, the moderating influence of Muslim consumers' willingness to accept religious leaders advice on the relationship between personal religiosity and attitude, and the mediating effect of perceived trust on the relationship between personal religiosity and BI.

The results also indicated that perceived risk and social influence significantly mediate the relationship between consumers' religiosity and their BI. In addition, PEOU significantly mediates the relationship between consumers' religiosity and their attitudes to IB. Only one of the conservative values - conformity - supported a significant relationship with consumers' BI. The result also significantly supported the positive relationship between consumers' religiosity and conservative and self-transcendence values. The results indicated that awareness is important as it is significantly related to trialability, BI, compatibility, PEOU and perceived risk. In addition, experience is important because the results showed it as having a significant relationship with other technology acceptance related variables such as social influence, PEOU, observability and PU. Furthermore, the results of this study confirmed some of TAM assumptions such as the positive relationship between PU, PEOU and attitude. However, the results of this study did not indicate the existence of a significant relationship between PEOU and PU, a relationship between PU and BI, and a relationship between attitudes and BI. These results, which contrasted with TAM, were discussed and explained in this chapter. The results significantly supported the importance of presenting Islamic banking through IB as this had important role in consumers' attitudes to IB. Furthermore, the results indicated the importance of consumers' religiosity level in determining their willingness to accept religious leaders' advice. In addition, the results showed a significant positive relationship between consumers' religiosity and social influence and their perceptions of risk. The results also support the negative moderating effect of the importance consumers give to obtaining Islamic banking on the relationship between consumers' religiosity and their attitudes to IB.

This chapter then discussed the qualitative data that was obtained through the open-ended questions. A qualitative analysis was conducted with regard to the questionnaire's three open-ended questions. The qualitative analysis of the responses for the open-ended questions emphasised the importance of perceived trust, PEOU, PU, perceived risk, IB service quality, and awareness as important factors that could encourage or discourage Muslim consumers from using Internet-only banks.

In general, the results offered a better insight into the perceptions, attitudes, and BI of the Muslim consumers toward Internet-only banks. They also provided empirical evidence of how religiosity affects consumers' behaviour. In the next chapter, the overall research findings will be interpreted in terms of their contribution to theory and practice. The next chapter will also discuss the limitations of the current study and make recommendations for further studies in the field.

Chapter ten: Discussions, implications, and directions for future research

10.1 Introduction

As stated in chapter one, this thesis has aimed to identify the factors that influence Muslim consumers' self-service technology acceptance. The intent was that the findings of this thesis would contribute to clarifying consumers' technology acceptance behaviour. In achieving this aim, a mixed method approach was adopted to explore and test the factors that could influence consumers' technology acceptance behaviour.

While chapter seven presented the qualitative analysis of the qualitative data, chapter nine presented interpretations of statistical analysis of quantitative data. The analyses in chapter nine were used to validate the measurements and test the hypotheses of this research.

This chapter begins with a discussion of the results of both the qualitative and quantitative studies of this thesis and proceeds to a discussion of this research's contribution. Then the research implications and recommendations are presented. And the research limitations and suggestions for future research are discussed in this chapter. The chapter concludes with conclusions related to the research problem.

10.2 Discussion of the results

Numerous hypotheses were developed in chapter eight related to consumers' technology acceptance behaviour. Most of the hypotheses related to the relationship between various predictors and their impact on consumer attitudes to and the intention to use technology. In addition, some of the hypotheses investigated the influence of personal religiosity on values and other factors influencing consumers' technology adoption intentions.

The categories of hypotheses were developed to help in understanding consumers' technology acceptance behaviour. This section discusses each of these major sets of hypotheses. Each of the following subsections reports the summary and the discussion of the findings of the qualitative and quantitative elements of this thesis. In the discussion of the quantitative study findings, it should be noted that a grey dashed path in the figure represents all the non-significant not-supported results. Moreover, all the following figures represent a snapshot of the research model presented in figure 9-1.

This section consists of 19 subsections that discuss the influences of the research variables. The first subsection discusses influences of religion and religiosity on consumers' technology acceptance behaviour. The second subsection discusses consumers' previous technology experience influence. The third subsection discusses the influence of consumers' awareness. The fourth subsection discusses the influences of consumers' perceptions of usefulness. The fifth subsection discusses the influence of personal innovativeness. The sixth subsection discusses the influence of perceived ease of use. The seventh subsection discusses social influences. The eighth subsection discusses the attitudes-behavioural intention relationship. The ninth subsection discusses the influences of innovation characteristics. The tenth subsection discusses the moderating effect of accepting religious leaders' advice and the importance of obtaining Islamic banking services on the relationship between religiosity and attitude. The eleventh subsection discusses the influences of religious leaders' advice and the importance of obtaining Islamic banking services on Muslim consumers attitudes to Internet only banks. The thirteenth subsection discusses the influence of perceived trust. The fourteenth subsection discusses the influences of perceived risk. The fifteenth subsection discusses the influence of the need for human interaction. The sixteenth subsection discusses the influences of human values on attitudes. The seventeenth subsection discusses the influences of human values on BI. The eighteenth subsection discusses the moderating effect of human values on the relationship between attitude and usage intention. Finally, the nineteenth subsection discusses the mediating influences.

10.2.1 Religion and religiosity influences

One of the objectives of this thesis was to understand the influence of religion and religiosity on consumers' technology acceptance behaviour. The qualitative results of both the religious scholars and Muslim consumers' samples, along with the results of the quantitative study, have clearly indicated the influences of religion and religiosity on the diffusion and adoption of Internet-only banks.

The religious scholars shed light on some of the important issues in Islamic religion that might restrict the diffusion of Internet-only banks in Islamic communities. The first important issue they stressed is that the Internet-only banks should not deliver un-Islamic banking services (such as interest-based loans), and that these banks should conform to Islamic law in all their transactions. Second, the Internet-only banks should maintain an acceptable degree of risk in all their operations. This risk should not exceed the 50 percent limit. The banks should also provide their customers with a reliable and secure website, provide customers with enough visible information about the bank's services, product features and contract conditions. Moreover, the e-contract between the bank and client should be clear and follow the regulations of the legal authorities while the bank should have the acceptable certification from those legal authorities. It was recognised that the risks and related factors that may cause risk could increase. These included uncertainty, lack of information, and a lack of trust in service providers. These were the dominating issues in the discussion of the influence of religion on the Internet-only banks' diffusion within the Islamic community. This may explain the significant positive relationship between religiosity and risk.

The interviews with the consumers revealed that religion was not enough to determine consumers' technology acceptance decisions. All the interviewees considered themselves Muslims but they perceived the role of religion on their technology acceptance process differently. Level of religiosity played an important role in their technology acceptance behaviour. As the results indicate, the influence of religiosity

extended beyond its direct influence in determining their decision whether to accept or reject technology's influences to affecting technology acceptance indirectly through its influence on related factors (such as the need for human interaction, social influence, perception of risk, personal innovativeness, perceived ease of use, and attitudes).

Consumers with various religiosity levels make their banking decisions differently. They not only differ in their choices as to the type of bank products and services preferences but also in the importance they give to religious leaders' advice. In addition they differ in their preferences for e-banking methods, the importance they gave to their peers and family members' opinions, their perceptions of risk in IB, and their trust in IB.

Highly religious interviewees placed high importance on religious leaders' advice in the form of 'fatwa'. They believed in the importance of following religious leaders' guidelines, especially with regard to banking and other financial matters. They also believed in the importance of taking note of opinions of those around them, especially family members, in taking e-banking decisions. Moreover, highly religious people believed it is important to obtain Islamic banking solutions through Internet-only banks. They stressed the importance of being Islamic as a main determinant of their decision to adopt such banks. This importance they gave to being Islamic was consistent with religious scholars' instructions about the importance of Internet-only banks following Islamic law in order for them to be accepted by religious authorities.

In contrast with previous studies that indicated that a negative relationship between high religiosity and personal innovativeness (Tanssuhaj et al., 1991), it seemed here that highly religious people were more innovative than those with low religiosity. In addition, highly religious people showed more willingness to accept risk in order to obtain Islamic banking through Internet-only banks than those who were less religious. This result contrasts with previous studies (John et al., 1986; Miller, 2000; Williamson et al., 2007) that showed a positive relationship between high religiosity and risk

perception. This may be attributed to the moderating influence of the type of the service provided in the Internet-only banks (e.g., Islamic banking). Highly religious people will accept high risk only if they believe that Internet-only banks are their only form of access to Islamic banking.

Less religious consumers did not show such interest on face-to-face interaction with bank employees. They believed that such interaction is only important in less-standardised services. Otherwise they believed e-banking was more convenient for them than interacting with banks' employees. These negative attitudes to employees may be related to previous negative experience with bank employees or to the employees' lack of training. On the other hand, highly religious interviewees showed more interest in human interaction.

The results of the quantitative study confirmed most of the results of the qualitative study's findings about the influence of religiosity on consumers' perceptions of trust, personal innovativeness, the importance given to religious leaders' advice, the important placed on obtaining Islamic banking services, and the influence of others on their banking decisions. Figure 10-1 showed the relationships between religiosity and some of the factors that have been discussed in the previous literature as predictors of consumers' technology acceptance.

It is not surprising that trust in Internet-only banks was high among highly religious interviewees, because a previous study indicated that high religiosity people show more trust in technology than those of low religiosity (Barnes, 2009). It is believed that this trust in Internet-only banks is highly influenced by expectations of the type of banking service provided in such Internet-only banks, as most highly religious consumers stressed obtaining Islamic banking solutions through Internet-only banks. Such trust is also influenced by the reputation of the Internet-only banks. Consumers often perceived that banks that have worked offline and then moved to online-only

banking would be seen as more trustworthy by consumers than those banks established as online-only from the beginning.

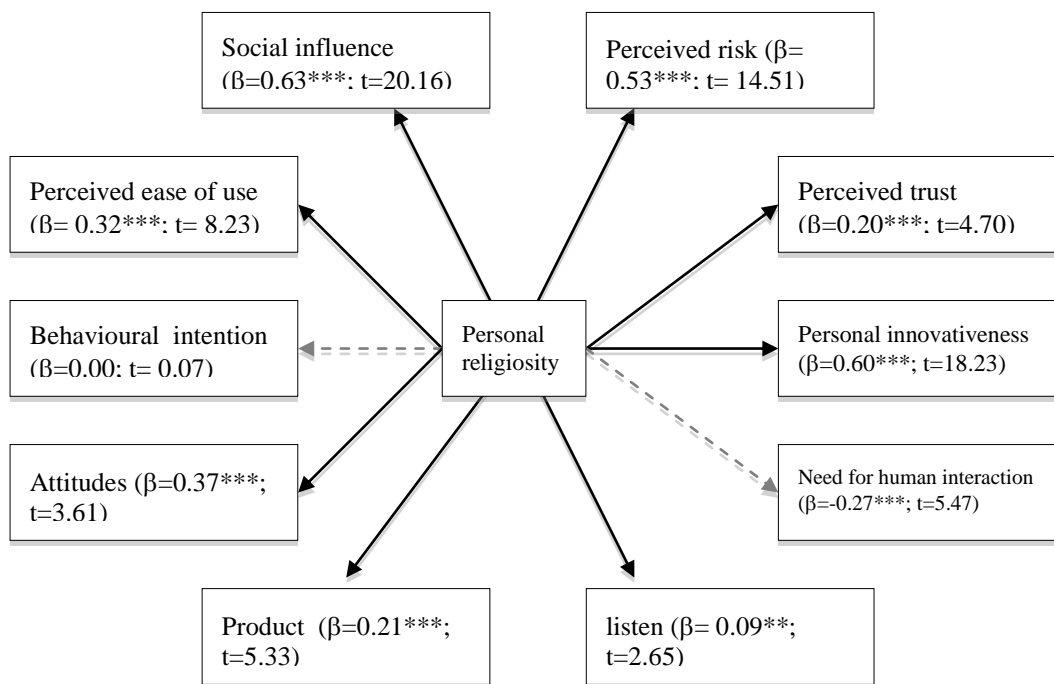


Figure (10-1). The religiosity influences diagram

A positive significant relationship was also found between religiosity and consumers being influenced by peer and family members' opinions. Religious people often placed considerable value on maintaining good relations with relatives and friends, and of being aware of their opinions.

In confirmation of previous studies (John et al., 1986; Miller, 2000; Fitzgerald, 2004; Williamson et al., 2007) the results of the quantitative study indicated a positive significant relationship between religiosity and consumers' perceptions of risk. This positive relation was in contrast with the consumers' interview results which indicated that highly religious people were more willing to accept risk than less religious people. This could be attributed to that the fact that the quantitative study ignored the

moderating influence of the importance high religious consumers gave to obtaining Islamic banking services. Therefore, it could be said that highly religious consumers are less tolerant of accepting risk unless this risk is related to the fulfilment of their religious belief, in terms of obtaining Islamic products and services online.

A significant positive relationship between personal religiosity and perception of the ease of use of Internet-only banks was also found. Surprisingly a significant positive relationship between personal religiosity and consumers' innovativeness was identified, a result that was consistent with the qualitative study results. It could not be said that this finding was in contrast with the results of previous studies, as there were two types of results in regard to the relationship between religiosity and innovativeness. Some researchers found a negative relationship between these two variables (Tansuhaj et al., 1991). Other researchers indicated a positive relationship between these two variables (Hanzaee & Ramezani 2011).

Previous studies indicated that religiosity is negatively related to attitudes to technology (Tansuhaj et al., 1991). Surprisingly this study found that there is a significant positive relationship between personal religiosity and consumers' attitudes to Internet-only banks.

As expected, a significant positive relationship between personal religiosity and the importance consumers' give to religious leaders' advice was established. There was also a significant positive relationship between personal religiosity and the importance consumers placed on obtaining Islamic banking products and services. These findings were consistent with the qualitative study results.

In regard to the influence of personal religiosity on usage intention, it was found that there was a positive but non-significant relationship between these two variables. This positive relation contradicted previous studies (Tansuhaj et al., 1991) that indicated that the relation between religiosity and technology acceptance was negative. However it

supports other studies (Barnes, 2009; Amin & Pagar, 2010) that indicated that the relation between these two variables is positive.

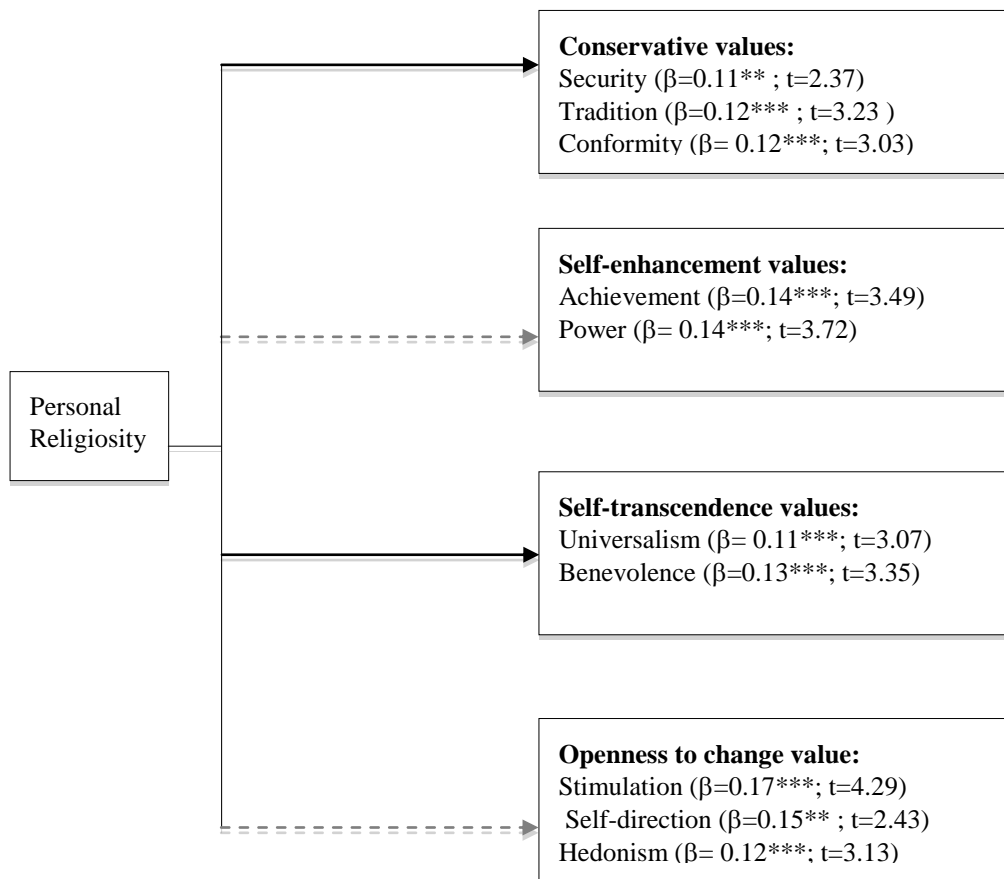


Figure (10-2). The influence of religiosity on Schwartz human values

As discussed in chapter eight, one category of hypothesis in this thesis was the influence of personal religiosity on consumers' values. Figure 10-2 illustrates the relationship between personal religiosity and the ten Schwartz human values. The human values in the figure were categorised in four ways as conservative values, self-enhancement values, self-transcendence values and openness to change values.

It was found that conservative values (security, tradition and conformity) have significant positive relationships with personal religiosity. It was also found that self-

transcendence values (universalism and benevolence) significantly positively related to personal religiosity. This finding partially supported Saroglou et al. (2003) and Schwartz and Huisman (1995)'s results and the positive results about personal religiosity and benevolence were consistent with Saroglou et al. (2003) and Schwartz and Huisman (1995) although the positive relationship found between the personal religiosity and universalism contrasted with their results. In contrast to Saroglou et al. (2003) and Schwartz and Huisman (1995), the findings of the quantitative analysis showed that self-enhancement values (achievement and power) and openness to change values (stimulation, self-direction and hedonism) had significant a positive relationship with personal religiosity. This contrasting result could be attributed to the differences in the religions that have been investigated. Schwartz and Huisman (1995) studied Western religions (e.g., Christianity and Judaism), while this study has investigated the Islamic religion. Different religions may expose different influences in the value systems of their followers. This explanation of the contradiction in results could not be confirmed or rejected as there are not enough studies of the influence of Islamic religion within conservative Islamic countries with which to compare the results. The available studies in the Schwartz human value model within Arabic and Islamic countries concentrate on the value system and behaviour with little attention to their relationship with religion.

Thus, the results of both the qualitative and quantitative studies of this thesis stress the importance of religion and religiosity in consumers' technology acceptance behaviour. In addition, the results confirm the important of religiosity in shaping consumer values.

10.2.2 Consumers' previous technology experience influences

As was expected, it was found that the relationship between previous experiences in technology had a significant positive relationship with perceived ease of use, perceived usefulness, trust and the perceived observability of Internet-only banks. These positive relationships support (Roger, 1975; Igbaria, 1992; Venkatesh & Davis, 2000) and

Burton-Jones and Hubona (2006)'s finding about the importance of previous technology experience on consumers' levels of online banking acceptance.

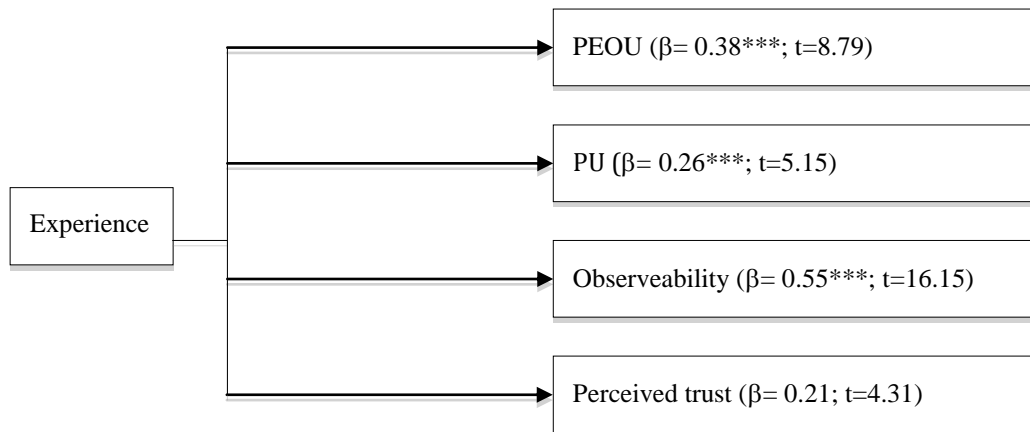


Figure (10-3). The influence of previous experience diagram

Experience may indirectly influence a consumer's intentions to use technology through its significant positive relationship to perceived trust and observability. Furthermore, these significant positive relationships with the variable emphasise the importance of consumer's technological experience for their IB experience.

10.2.3 Awareness influences

It was not surprising to find that consumers' awareness of Internet-only banks had a significant positive relationship with their perceptions of ease of use, trialability, and compatibility. The more information consumers have about the innovation, the more they will be able to judge it in regards to these three factors, and the more they will be able to make decisions in regard to complexity, and compatibility in innovations with their previous values and experiences.

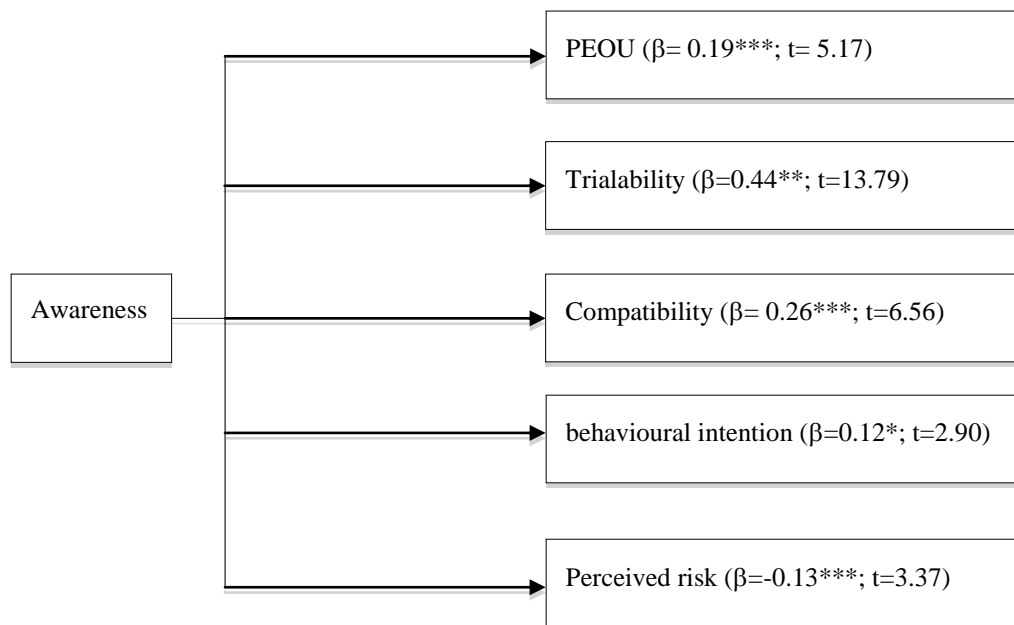


Figure (10-4). The influence of awareness diagram

Figure (10-4), indicates that the relationship between consumers' awareness of Internet-only banks and usage intention is positively significant and, those who are more aware of the technology are more willing to use it. These positive relationships support the results of Sathye (1999), Sohail and Shanmugham (2004), Pikkarainen et al. (2004), Al Somali et al. (2009). In addition, it was found that consumers' awareness of Internet-only banks had a negative relationship with perceived risk. This negative relationship refers to the importance of raising consumer awareness of the benefits and security of Internet-only banks, as by raising awareness consumers will perceive less risk and this may encourage them to adopt these services.

10.2.4 Perceived usefulness influences

As in previous studies (Davis, 1989; Taylor & Todd, 1995a; Agarwal & Karahanna, 2000; Venkatesh & Davis, 2000; Mattila et al., 2003) it was found that perceived usefulness had significant positive relationship with attitudes to innovation. It was also

found that perceived usefulness had a significant positive relationship with trust. This supports Barnes' (2009) result. Those positive relationships indicate that the more benefits consumers expect from using the Internet-only banking, the more positive attitudes they would hold to it, trusting Internet-only banks if they perceived them as useful.

Although previous studies (Davis, 1989; Taylor & Todd, 1995; Agarwal & Karahanna, 2000; Venkatesh & Davis, 2000; Mattila et al., 2003) indicated a significant positive relationship between perceived usefulness and BI, here it was found that even though the relationship between perceived usefulness and BI is positive, it did not significantly support the results of these previous studies.

Perception of usefulness of a new technology did not always imply that the individuals would adopt such technologies. Individuals may perceive a new technology as useful but may have no need for it. They may believe that existing technologies satisfy their needs (Rogers, 2003). Muslim consumers may also perceive Internet-only banks to be useful but at the same they believe that existing online banking is enough to satisfy their needs. In this case they may not develop the intention to adopt Internet-only banks. Therefore, the perceived need for products and services may be considered an important factor that influences consumers' acceptance of new products and services.

However, by comparing the results of the relationship between these variables within the general model (figure 10-5) with the results of testing the TAM model using a general database (figure 9-5a), it could be concluded that there was significant positive relationship between these two variables. However, this relationship weakened due to the introduction of additional variables into the model.

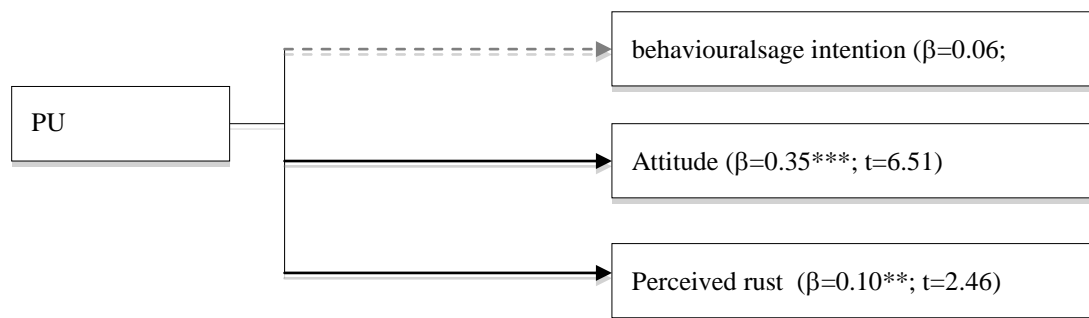


Figure (10-5). The influence of perceived usefulness diagram

10.2.5 Personal innovativeness influences

It was found that the relationship between personal innovativeness and perceived usefulness was significant and positive. This result supports previous findings (Agarwal & Prasad, 1998; Lewis et al., 2003; Lu, 2003).

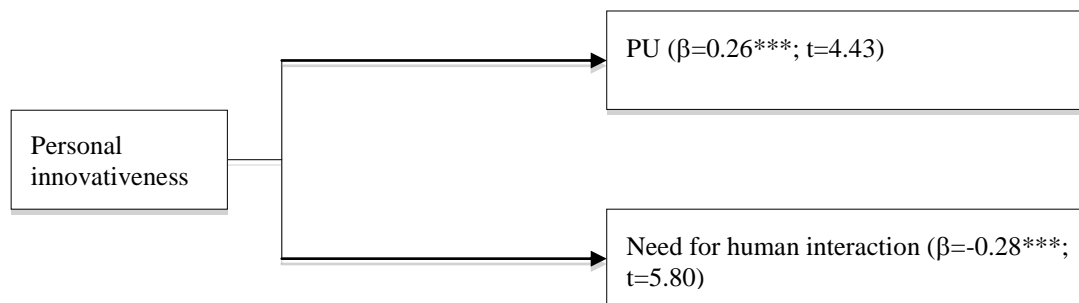


Figure (10-6). The influence of personal innovativeness diagram

The results support Clark and Goldsmith (2006) in regard to the relation between personal innovativeness and human interaction. Figure 10-6 shows a negative significant relationship between personal innovativeness and consumers' need for human interaction. This negative relationship indicates that a more innovative person will be less interested in interacting with bank employees.

10.2.6 Perceived ease of use influences

Corresponding with previous studies (Davis, 1989; Taylor & Todd, 1995; Agarwal & Karahanna, 2000; Venkatesh & Davis, 2000; Mattila et al., 2003) it was found that perceived ease of use has a significant positive relationship with attitude toward the innovation. It was also found that perceived ease of use has a significant positive relationship with perceived trust, this supports Barnes' (2009) result.

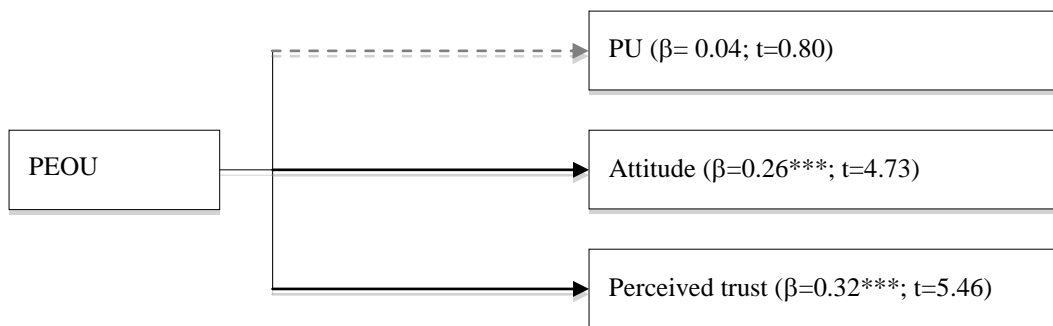


Figure (10-7). The influence of perceived ease of use diagram

Those positive relationships between PEOU and attitude indicate that the less complexity consumers expected from using the Internet-only banking, the more positive attitudes they would hold to it. Consumers would also trust the Internet-only banks if they perceived them as easy to use. On the other hand, the findings in regards to the relationship between perceived ease of use and usefulness did not support previous studies (Davis, 1989; Taylor & Todd, 1995; Agarwal & Karahanna, 2000; Venkatesh & Davis, 2000; Mattila et al., 2003), as they showed no significant relationship between these two variables. This non-significant relationship could be attributed to the complexity of the model.

10.2.7 Social influences

It was found that there are positive significant relationships between social influence, perceived usefulness and behavioural intention. This supports previous findings (Venkatesh & Davis, 2000; Lu et al., 2005; Yi et al., 2005; Xue et al., 2011). On the other hand, the results indicate a significant negative relationship between social influence and the need for human interaction. This negative relationship contrasts with the research hypothesis that refers to a significant positive relationship.

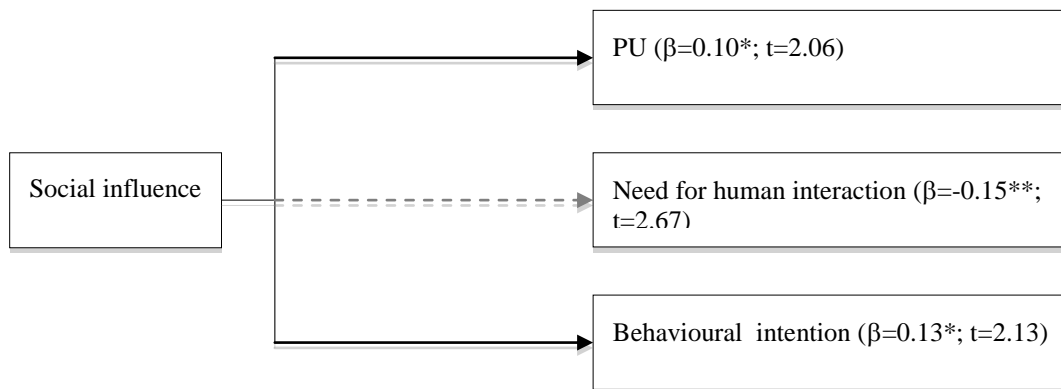


Figure (10-8). The influence of social influence diagram

10.2.8 Attitudes-behavioural intention relationship

Even though previous studies refer to a positive relationship between consumers' attitudes to behaviour and their intentions to act (Al Khaldi & Wallace, 1990; Vijayasarthy, 2004; Sait & Hussain, 2004; Lee, 2008; AlSajjan & Dennis, 2009; Abbasi et al., 2010), there was inconsistency in regard to the significance of the influence of attitudes on behavioural intention within the technology acceptance context.

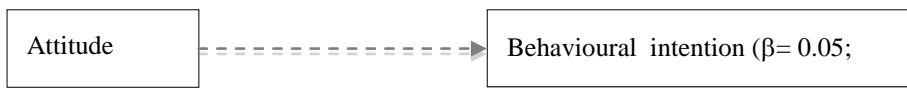


Figure (10-9). The influence of attitudes to behavioural intention

Some researchers believe that attitudes are important in directing behavioural intention, while others (Yousafzai et al., 2007a; Jahng et al., 2007; Shim & Eastlick, 2008) argue that the role of attitude is not important in technology acceptance, especially in mandatory usage situations. The findings of this research indicated a positive relationship between consumers' attitudes to Internet-only banks and their usage intentions but this direct positive relationship was not significant. Therefore, it could be said that the finding support previous studies (Yousafzai et al., 2007a; Jahng et al., 2007; Shim & Eastlick, 2008) which found that the relationship between these two variables was not significant.

10.2.9 Influences of innovation characteristics

It was found that observability was significantly positive related to usage intention, a finding which is in contrast with previous studies that argued that observability is irrelevant to IB as consumers could not be observed while using such a service (Al-Ghaith et al., 2010; Al-Majali & Nik Mat, 2011).

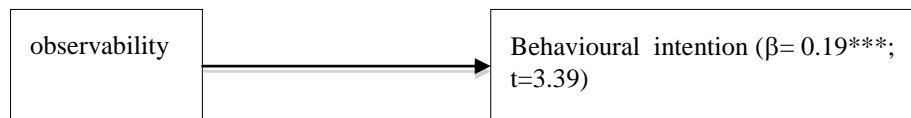


Figure (10-10). The influence of observability on behavioural intention

The results indicated that, even though there is a positive relationship between trialability and behavioural intention, there is a negative relationship with perceived usefulness. These relationships are not significant in supporting previous studies which

indicated that trialability is significant positive influence in consumers' adoption of IT (Agarwal & Prasad, 1997; Rogers, 2003; Hernandez & Mazoon, 2007). Unlike the other SST (e.g., e- check out and e-reservation) that could be used on a trial basis before consumers take their final decision to adopt such services, it is difficult for consumers to try IB before adopting it. For example, almost all Saudi banks did not allow their clients to use IB on as trial basis. Even though some Saudi banks allow their clients to use some of the online banking services options (e.g., viewing their bank statements online) without forcing them to activate the full online banking services, clients were not allowed to try the full options of online banking. The inability to try full online banking services may contribute to making consumers unable to perceive the usefulness of online banking and make them trust the IB experience less.

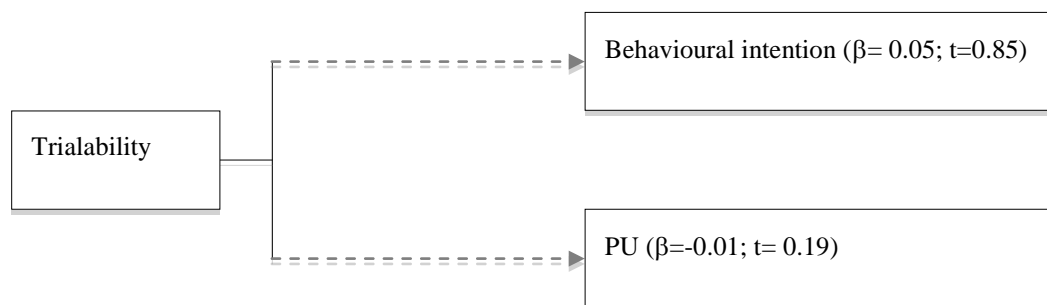


Figure (10-11). The influence of trialability on behavioural intention and perceived usefulness

In regard to the results related to the relationship between compatibility with behavioural intention and PU, it was found that there was a significant positive relationship with PU. Also there was a positive but not significant relationship with behavioural intention. This contrasts with some previous studies (Moore & Benbasat, 1991; Liao et al., 1999; Meuter, 1999; Rogers, 2003) which indicated that compatibility is an important factor that influences individuals' adoption of new technologies. This contrasting finding could be attributed to Muslim consumers' understanding of the IB concept. Internet-only banking has not been introduced to Saudi market yet, which may

confuse consumers in Saudi Arabia and make them unable to assess its compatibility with their experiences of other e-banking services.

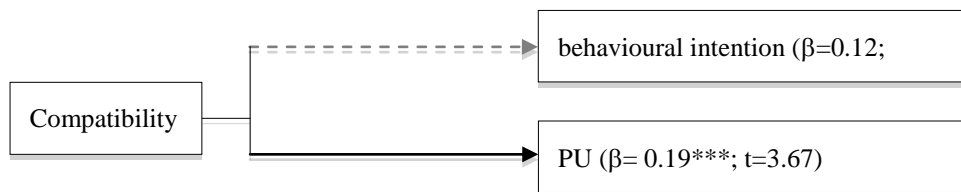


Figure (10-12). The influence of technology compatibility on behavioural intention and perceived usefulness

10.2.10 The moderating effect of accepting religious leaders’ advice and the importance of obtaining Islamic banking services on the relationship between religiosity and attitude

As has been hypothesised, it was found that the importance consumers gave to religious leaders’ opinions had a negative effect on the relationship between personal religiosity and attitudes to technology. This negative effect is not significant. However, it is important in drawing attention to the importance of religious leaders’ advice in shaping religious people’s attitudes to innovations.

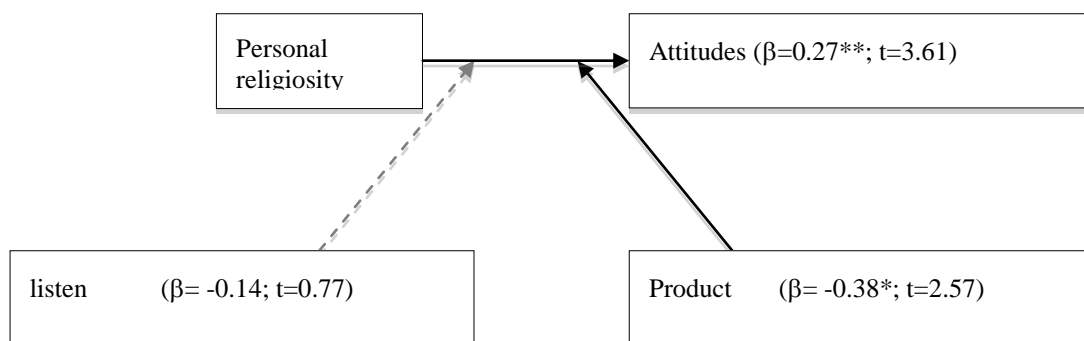


Figure (10-13). The moderating effect of accepting religious leaders advice and the importance of obtaining Islamic banking services through Internet only banks on the relationship between religiosity and attitude

The results indicated that the importance consumers give to obtaining Islamic banking through Internet-only banks had a significant negative effect on the relationship between personal religiosity and consumers' attitudes to innovation. This negative impact on the relationship shed light on the importance of providing highly religious consumers with Islamic banking services, as not providing Islamic banking through Internet-only bank would negatively influence their attitude toward such banks.

10.2.11 The influences of religious leaders' advice and the importance of obtaining Islamic banking services on attitudes

It was found that both the importance consumers give to religious leaders' opinion and the importance they give to obtaining Islamic banking services through Internet-only banks had a positive influence on consumers' attitudes toward Internet-only banks. However, the influence was not significant in the case of the importance consumers gave to religious leaders' opinions. But in regard to obtaining Islamic banking services through Internet-only banks, the influence was significantly positive, which leads us to note the importance of introducing Islamic banking through Internet-only banks when operating such banks in Islamic countries.

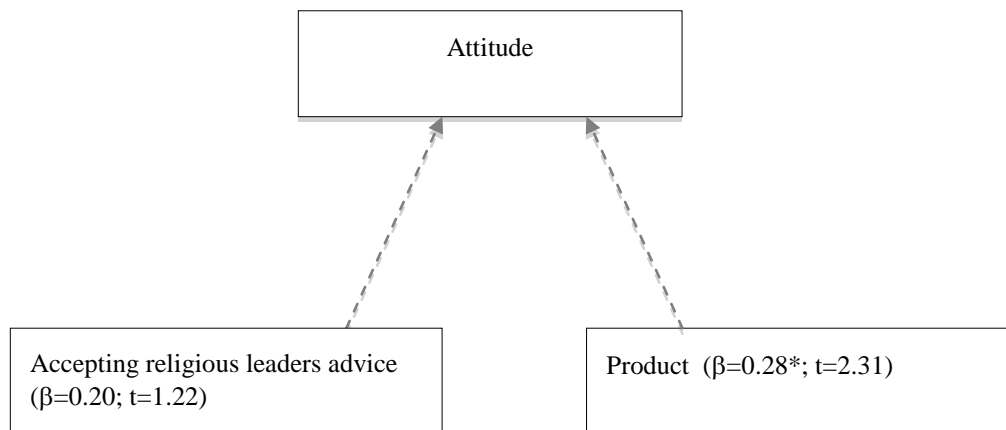


Figure (10-14). The influences of religious leaders' advice and the importance muslim consumers give to obtaining Islamic banking through internet only banks on

This significant positive result confirmed what has been discussed earlier through religious scholars semi-structured interviews (section 7.2.1.47.2.1.4), that Internet-only banking should provide Shari'ah compliant products in order to be accepted by religious authorities. But on the other hand, these positive results are in contrast to the hypothesised relationships.

What is interesting in looking at the positive influences of these two variables of consumers' attitudes is that they raise concerns about the importance that should be given to religious leaders' advice and the type of the products and services delivered through technology. The results support previous studies (Hashim & Mizerki, 2010; Muhammad, 2008) in stressing the importance of these two variables in studying Muslim consumers' behaviour.

10.2.12 The influence of trust

It was found that the perceived trust in Internet-only banks had a significant positive relationship with usage intention. This finding supports the findings of several previous studies (Mukherjee & Nath, 2003; Lee et al., 2003; Yousafzai, 2005; Al Sajjan & Dennis, 2006; Ozdemir & Trott, 2009; Suh & Yousafzai, 2009) that the relation between perceived trust and intention to use IB is positive.

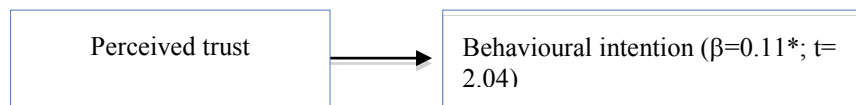


Figure (10-15). The influences of perceived trust in behavioural intention

10.2.13 The influences of perceived risk

In contrast with previous studies that indicated that risk has a negative influence on consumers' intention to adopt online banking (Littler and Melanthiou, 2006; Koenig-Lewis et al., 2009; Riquelme & Rios, 2010), the results of this research indicated that perceived risk in Internet-only banks has a significant positive relationship with behavioural intention.

This positive relationship could be related to consumers' risk taking behaviour, as those who are risk takers are more willing to accept risky behaviour. Another explanation for this positive relationship is related to the nature of respondents. This research sample is dominated by moderately and highly religious consumers. As has been discussed previously (section 9.3.3) highly religious consumers may accept risk if they believe that the Internet-only bank is their only way to access Islamic banking. Therefore, it would be useful to introduce this type of service as a moderating variable that could have a significant positive influence on the relationship between risk and intention.

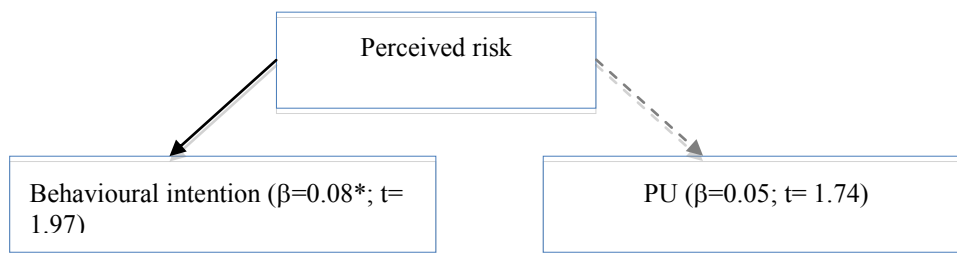


Figure (10-16). The influences of perceived risk on PU and behavioural intention

Another explanation for this positive relationship could be related to the context of this study. The quantitative study in this thesis took place in Saudi Arabia. The banking system in Saudi Arabia is controlled by SAMA which implements a high degree of e-security regulations that all banks operating in Saudi Arabia have to follow by (see

section 5.4.4). These regulations could be the reason behind respondents' feeling of confidence in adopting IB, even though they understood the potential risks.

Figure 10-16 also indicates that there is no significant positive relationship between perceived risk and the perceived usefulness of an Internet-only bank. Even though this positive relationship is not significant, it contrasts with the hypothesised negative relationship between these two variables. This positive relationship could be attributed to consumers' expectations of the outcome of the technology. Some people believe that risk is usually associated with high outcomes. Therefore, they accept risky investments. This also could be the case for technology acceptance. Consumers could be expecting an increase in their productivity and other positive outcomes of their use of risky technologies.

10.2.14 The influence of the need for human interaction

In contrast with the research hypothesis that asserted that consumer need for human interaction would have a negative relationship with perceived usefulness of the Internet-only bank, the results showed a positive but non-significant relationship with consumers' perceived usefulness of online banks.

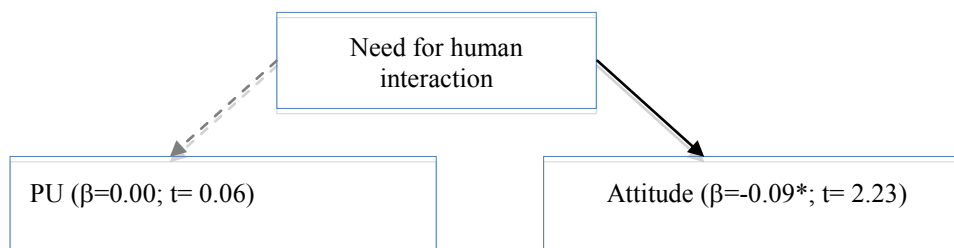


Figure (10-17). The influence of need for human interactions on PU and attitudes

This relationship is significantly negative with regard to attitudes to Internet-only banking. This significant negative relationship with attitude supports Meuter (1999)'s findings.

10.2.15 The influences of human values on attitudes

According to several researchers (Hill et al., 1998; Al birini, 2006; Bagchi & Kirs, 2009) values play an important role in shaping consumers' attitudes to technology. Bagchi and Kirs (2009) argue that human values have significant influences on consumers' attitudes toward Information and communications technology (ICT). In contrast to previous studies, the findings of this research indicate that the influences of human values on attitude toward Internet-only banks are not significant. Moreover, in contrast to previous studies, the research results indicated that conservative values (security, tradition and conformity) have a positive influence on consumers' attitudes toward Internet-only banks. This positive influence, even though it is not significant, suggests that the more conservative the consumer is, the more he or she is likely to hold positive attitudes to technology. Previous studies do not support this conclusion.

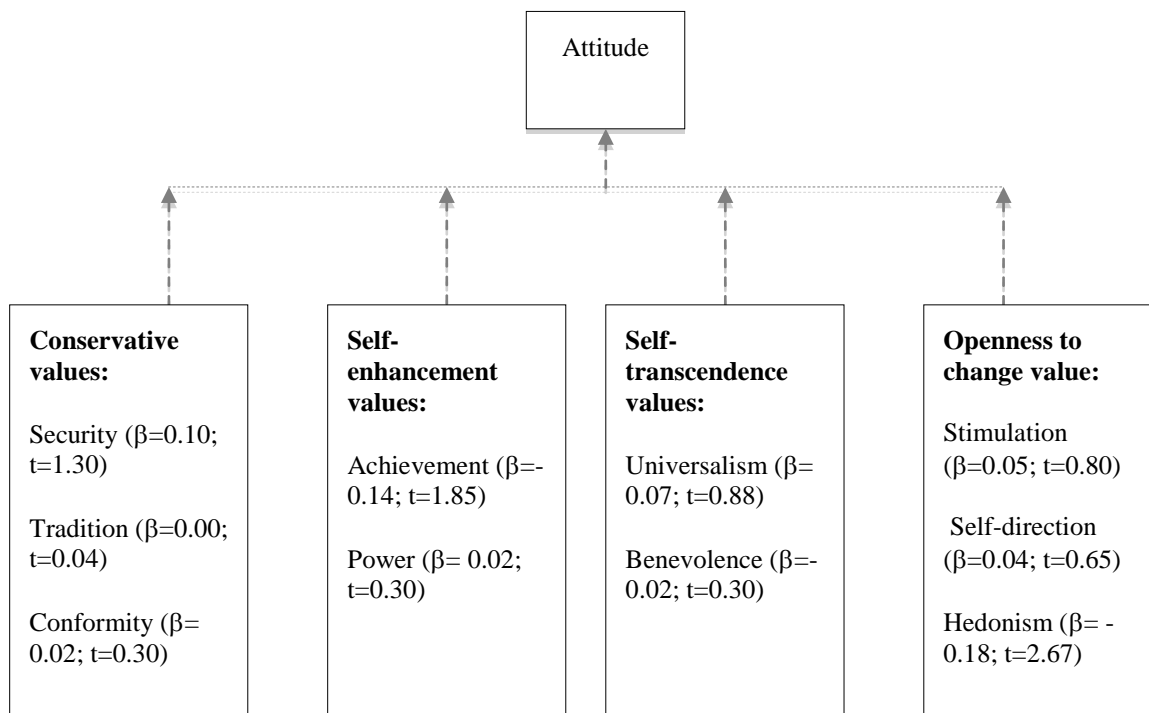


Figure (10-18). The influences of human values on attitudes

In addition, the results indicated that one of the self-enhancement values (power) and two of the openness to change values (stimulation and self-direction) had positive influences on attitudes to Internet-only banks. Even though they were not significant, this supports previous research that argued there was a positive impact of these categories of values on attitudes to technology (Bagchi & Kirs, 2009). On the other hand, one of the self-enhancement values (achievement) and one of the openness to change values (hedonism) both had negative relationships with attitude. This negative relationship contrasted with Bagchi and Kirs' (2009) findings. In regard to self-transcendence values (universalism and benevolence) some related studies argue that these values are irrelevant to technology acceptance (Bagchi & Kirs, 2009) while Barnes (2009) believes that benevolence values have an indirect influence on technology acceptance through their influence on the perceived ease of use. In line with previous studies' results, this research indicated that the influence of self-transcendence values on consumers' attitudes toward Internet-only banks was not significant.

10.2.16 The influences of human values on behavioural intention

It was argued in this study that human values have significant influences on consumers' intention to adopt Internet-only banks. In contrast to the expected results, the findings of this research indicated that the influences of human values on consumers' intention to adopt Internet-only banks were not significant, except for one value - the relationship with conformity.

In contrast to what had been hypothesised, the research results indicated that conservative values (security and tradition) have a positive influence on consumers' intention to adopt Internet-only banks. This positive influence, even though it is not significant, suggests that the more conservative the consumer, the more likely he or she would be to adopt Internet-only banking.

The results indicated that the self-enhancement values and two of the openness to change values (stimulation, self-direction) negatively influenced consumers' intention to adopt Internet-only banks. These results contradict what was originally assumed here. In addition, consistent with previous studies (e.g., Bagchi & Kirs, 2009), the results indicated that self-transcendence values have no significant influence on consumers' intentions.

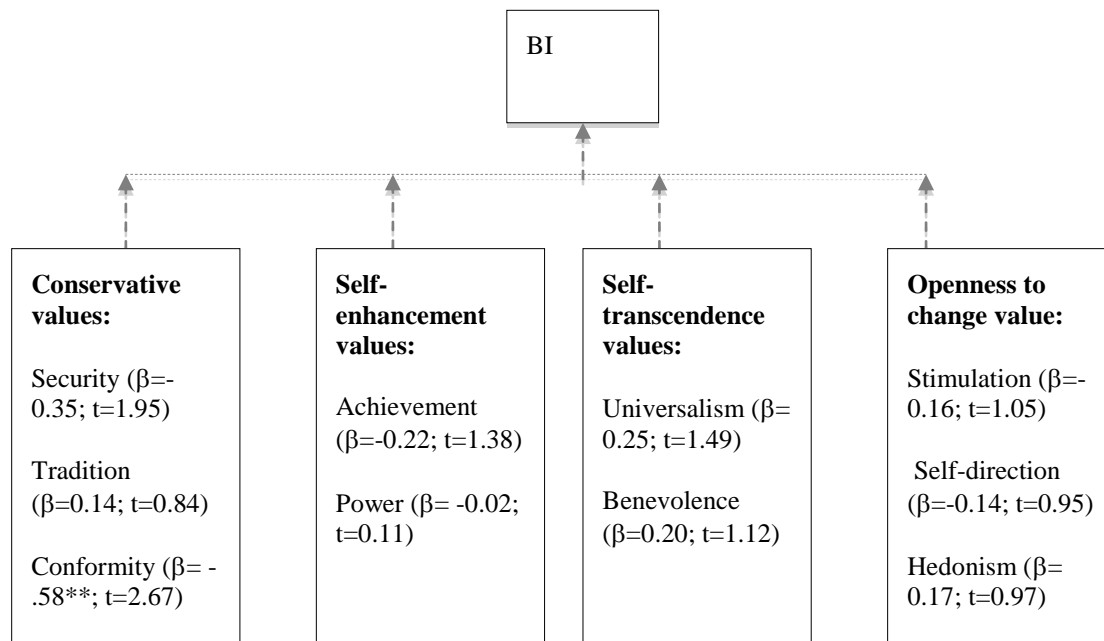


Figure (10-19). The influences of human values on behavioural intention

These non-significant and contrasting results indicate that even though human values may influence consumers' behavioural intentions and attitudes in some aspects of their consumption behaviour, the influences of these values are not obvious and they are not a strong influence on consumers' intention to adopting Internet-only banking.

10.2.17 The moderating effect of human values on the relationship between attitude and behavioural intention

The findings of this research indicated that the moderating effect of human values on the relationship between consumers' attitudes and consumers' intention to adopt Internet-only banks are not significant. In contrast to what had been hypothesised, the research results indicated that one of the conservative values (conformity) had a significant positive effect on the relationship between consumers' attitudes and consumers' intention to adopt Internet-only banks. Yet this significant result did not support the previous research (Bagchi & Kirs, 2009) and this research's hypothesis that asserted a negative relationship between the two variables.

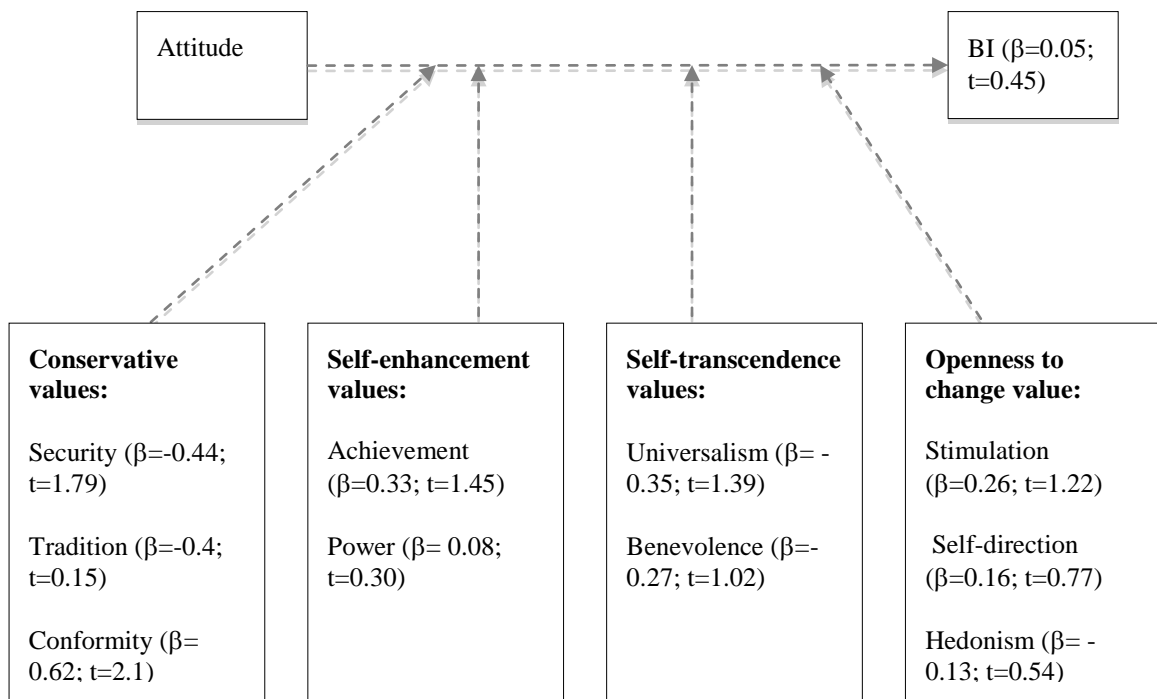


Figure (10-20). The moderating effect of human values on the relationship between attitude and behavioural intention

In addition, in contrast to what has been assumed, the results indicated that one of the openness to change values (hedonism), one of the self-enhancement values

(power) and the transcendence values have negative influences on the relationship between consumers' attitudes toward and consumers' intention to adopt Internet-only banks.

10.2.18 Mediating influences

Even though the results had indicated that the relationship between personal religiosity and consumers' intention to use Internet-only banks was not significant (see section 10.2.1), mediating analysis showed the significant indirect influences of personal religiosity on behavioural intention through the influence of personal religiosity on consumers' perceptions of risk (figure, 10-21) and social influence (figure, 10-22).

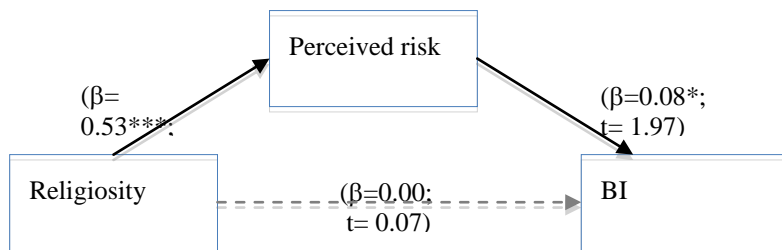


Figure (10-21). The mediating effect of perceived risk on the relationship between religiosity and behavioural intention

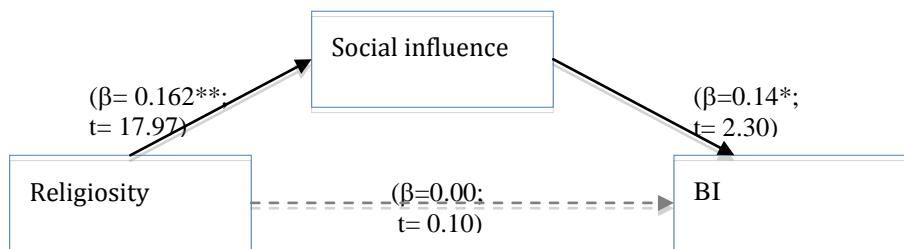


Figure (10-22). The mediating effect of social influence on the relationship between religiosity and behavioural intention

The results also indicated that, in addition to the direct significant positive influence of personal religiosity on consumers' attitudes to Internet-only banks, there is an indirect significant positive influence of personal religiosity on consumers' attitudes toward Internet-only banks through the influence of personal religiosity on consumers' perceptions of the ease of use of this innovation (figure 10-23).

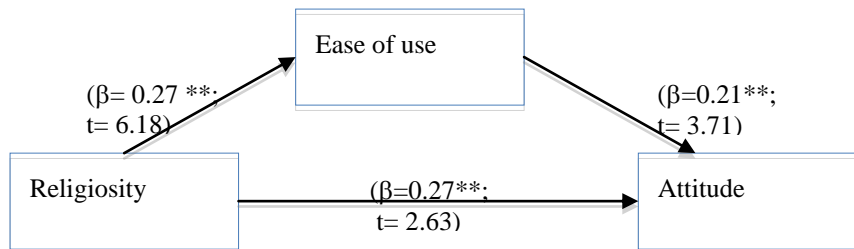


Figure (10-23). The mediating effect of PEOU on the relationship between religiosity and attitude

10.3 Research contributions

This thesis was developed, designed, and implemented to add some contribution to the literature. The theoretical contribution of this thesis can be categorised in two subsections. The first subsection is the theoretical contributions to the cultural influence on consumer behaviour studies, and the second subsection is the theoretical contributions to innovation adoption.

10.3.1 Theoretical contributions to cultural influence on consumer behaviour studies

There was an increase in the importance of investigating the influences of culture and subculture on consumers' behaviour. Prior studies of cultural influence on individual consumption behaviour indicated that cultural values are significant in determining person consumption behaviour (Chung, 1998; Tompson & Tambyah, 1998; Shaw & Clarke, 1998). Moreover, there is growing trend in the literature that focuses on the

influence of culture and its elements on consumers' technology acceptance behaviour (Mokhlis, 2006).

Many researchers believe that the complexity of culture makes it difficult to investigate it as one unified concept (Mokhlis, 2006). Therefore, there has been a call to 'unpack' culture in order to gain more understanding of the underlying dimensions of cultural influences (McCort & Malhotra, 1993: 92). Even though cultural influences have been introduced to research in the context of technology acceptance, most of the studies conducted in that context treat culture as an abstract concept, assuming that cultural elements impose the same influence on consumer behaviour. In doing so researchers into technology acceptance neglected the differences in influences and the importance consumers give to each cultural element. Consumers may be influenced by one cultural element more than by another. For instance, some consumers may see values as being more important than customs or language. Therefore, treating culture as a unified concept may not be helpful for the researcher in obtaining in-depth understanding of consumer behaviour.

Researchers have considered religious values as strongly related cultural elements, and many believe that religion determines value priorities (Schwartz & Huisman, 1995; Roccas, 2005). Religion and values are important cultural elements because they have significant influences on individuals' behaviour both at social and individual levels. But even with the important role of values and religion in determining individuals' behaviour, the impacts of these two factors have received little attention in marketing and technology acceptance literature.

The current study was conducted with the aim of contributing to the literature about cultural influences on consumer behaviour, by investigating the influence of the cultural variables of religion and value on consumers' technology acceptance behaviour.

In addition, it was hoped that the findings of the present study would contribute to the literature of culture influence on consumer behaviour in various ways. First, this study was conducted to answer the question of whether religion, religiosity and value influenced consumers' technology acceptance. Therefore, this study contributes on consumer behaviour literature by explaining the influence of consumers' religious affiliation and religiosity on their consumption behaviour. Second, the study contributes to consumer behaviour literature by investigating the interaction between two cultural elements, which are religiosity and values, and the influence of these on consumers' technology acceptance. Third, the study sheds light on the issue of religious affiliation as an important aspect of consumer behaviour, and investigates whether the practice of religion should receive more attention in terms of how it may determine consumer behaviour. This implies that religiosity could serve as a potentially powerful predictor of consumer behaviour. Thus, religiosity rather than religious affiliation should be given more attention in future research into consumer technology acceptance behaviour. The results of the present study are valuable because of the link they establish between religiosity and values and some aspects of technology acceptance behaviour (see figure 9-8).

The results also provide evidence of religion's influence on consumer behaviour in a non-Western culture. The current study may lead international consumer behaviour researchers to a better understanding of the influence of religion and values on consumer behaviour on Islamic culture.

10.3.2 Theoretical contributions to innovation adoption

As the current study has investigated consumer acceptance of Internet-only banks, it has contributed to the field of innovation diffusion through integrating and extending three well-cited consumer adoption models: the technology acceptance model (Davis, 1989), the innovation diffusion theory (Rogers, 1983), and the theory of reasoned action (Fishbein & Ajzen, 1975a) to investigate consumers' Internet only banks adoption

behaviour. This study has extended the three models by adding nine additional variables which are: religiosity, values, Muslim consumers willingness to accept religious leaders' advice, the importance consumers give to obtaining Islamic banking through Internet only banks, perceived risk, perceived trust, awareness, previous technology experience and consumers' need for human interaction. The study adopted two variables from TAM (Davis, 1989): perceived ease of use, and perceived usefulness, three variables from IDT (Rogers, 1983): trialability, observability, and compatibility and three variables from TRA (Fishbein & Ajzen, 1975a): attitudes, behavioural intention and social influence. The choice of the variables was based on the qualitative study results and literature review.

Most of the existing technology acceptance models, including TAM, TAM2, TAM3 and IDT, concentrate on the technological characteristics that influence individuals' use of technology. These models tend to consider individual decisions about using technology as rational decisions taken after comparing the benefits with the costs of such innovation. Therefore, most of these models simplify individuals' technology acceptance decisions by ignoring cultural influences. This neglect of group influence in most technology acceptance models may limit their effectiveness, as the consumer is always part of a social context. Thus, it is expected that he/she would be influenced by the opinions, values, and regulations that are usually imposed on him/her by this social context. This study contributes to the technology innovation literature by investigating the role of cultural elements (religion and values) on consumers' acceptance of technology. This study proposes a technology acceptance model that would extend the common TAM and IDT by including two cultural variables (religiosity and human values). It also furthers the understanding of group influence on consumers' technology acceptance behaviour by including the social influence variable in the proposed model.

In addition, as a way of expanding understanding of the role of the lack of the human touch in technology acceptance, this study has investigated the influence of consumers' need for interaction with human factors during their SST experience. It has

also contributed to the innovation diffusion literature by introducing the religious leaders' role in consumer technology acceptance decisions, and the importance consumers give to obtaining religion-related products and services through IB. The results of this study show the importance consumers place on obtaining religious related services in determining consumer attitudes toward Internet-only banks. This reveals the importance of including religiously related products and services when introducing technologies to highly religious consumers.

In addition, the present study identifies the importance of awareness, perceptions of risk and trust as factors affecting intention to use innovation. The findings of this study shed light on the importance of examining the role of perceived risk and trust in technology when the degree of uncertainty is high, such as in the case of Internet-only banks. Furthermore, this thesis concentrates on new service innovation, which has unique features and contains a high degree of uncertainty and a lack of human interaction and relevance to individual religiosity. Thus, this thesis' framework could be applied to other products and services that relate to consumers' religious beliefs in predicting their intentions to use them.

10.4 Implications and recommendations

Marketers should recognise barriers to SST adoption and try to develop ways to increase their adoption. This study has investigated the role that national culture and social institutions play in influencing consumers' acceptance of Internet only banks. The results of this study could be used by organisations that are working in other countries or planning to expand their business there. It suggests that Internet only banks acceptance depends on many different cultural, social and personal factors.

Ease of use is one factor that researchers have identified (Davis, 1989; Venkatesh & Morris, 2000; Venkatesh & Davis, 2000; Polatoglu & Ekin, 2001; Chau & Lai, 2003) as important in determining consumer attitudes and intention to use technology in

general and online banking in particular. The results (section 10.2.2) show that ease of use is positively influenced by consumers' previous technology experience. Therefore, it is important for bank managers to increase their consumers' perceptions of the ease of use of Internet-only banks. This could be done through training consumers how to use the technology as a way to convince them that it is not too complex. Abdul-Gader and Kozar (1995), suggest that training is important for the improvement of knowledge about Internet technology and that it increases favourable perceptions of ease of use. Moreover, the qualitative study indicated that consumers value bank employees' role in training them to use ATM cards. They also believe that employees' assisting them in using such service the first time was important in making them feel they were easy to use.

This study will be useful for bankers as it supports their decisions on self-service technologies deployment by providing them by the factors that may influence consumers' adoption of such technologies. It also provides them with information about the differences between consumers in regard to their preferences for e-banking methods. This study compared consumers according to age, gender, education, income and religiosity in regard to their preferences of using ATM, IB, phone banking, branch banking and mobile banking. The results of such comparisons provide useful information for decision makers in the banking sector as they refer to the differences between market segments and the ranking they give to different banking methods. Thus, decision makers in banking sectors should consider these differences in ranking when they design the positioning strategy of each banking method. For instance, bankers should pay more attention to women in positioning Internet and phone banking in the conservative Islamic markets as results of the qualitative study of this thesis indicates that women show more interest in these two banking methods, whereas men show more interest in ATMs. These differences in preferences could be related to cultural aspects, as has been mentioned in section 7.2.2.4. Therefore, there is a need to consider these differences in designing and promoting the banking services when introducing them into conservative Islamic countries.

The results also suggest that it would be of benefit for marketers to promote the ease of use and usefulness of the self-service technologies, since the results of this study indicate that perceived ease of use and usefulness have a significant influence on consumers' attitudes and their trust in SST. Thus, by raising consumers' awareness of the benefits, the ease of use and the relative simplicity of using Internet-only banks, marketers would be able to indirectly influence consumers' adoption of the innovations through influencing their perceptions of trust of the innovations. Moreover, marketers should emphasize designing ease to use, ease of navigation, and secure websites to serve consumers.

One of the key issues facing international marketers is how to succeed in the multicultural consumer market. Labour migration is making today's markets more heterogenous. Thus, marketers who assume the homogeneity of national markets are making a crucial mistake. This heterogeneity of consumer markets drives marketers to use non-standard marketing approaches as the use of standardised approaches would be seen to under estimate the influence of cultural differences among consumers. Marketers who are seeking to understand consumers in more predictive way need to enhance their understanding of the influence of religion, and/or religiosity, on consumers' behaviour. It would also be useful for them to understand the role of religious leaders in consumer behaviour. It may also be useful for them to understand the important role religion plays in setting practices, standards and regulations for companies that conducting their business in countries where religion and state are highly related.

Since the results of this study indicated that religiosity has a significant influence on consumers' perceptions of technology ease of use, risk, trust, consumers' innovativeness and social influence, it may be important for marketers to be aware of the influence of consumers' religiosity on these factors as this may otherwise indirectly hinder consumers' intention to accept technologies. At the same time, the positive

relationships between religiosity and these variables may create opportunities for marketers to promote their SST.

Marketers should be aware that understanding religious teachings is not enough to understand consumer behaviour, as the results of this study indicated that consumers from the same religion have different perceptions and attitudes toward the same innovation. Furthermore, as results of current study indicate, the importance consumers give to religious leaders' advice depends on consumers' religiosity level. It would be valuable for marketers to use religious leaders to promote their innovations in highly religious segments of the market. In order for marketers to obtain religious leaders' acceptance and support they should consider religious teachings in designing their service website. They should provide enough clearly worded information about the services. Moreover, in planning their website and promotion campaign they should be aware of the importance of not deceiving consumers or hiding service features. Understanding the importance of a religious perspective in a website's features indicates that management should be more concerned with such features when conducting business in conservative Islamic countries.

The results of this study show that the relationship between religiosity and social influence is significant. This means that religious people may prefer to receive information about innovation from their peers or by religious leaders. Thus, marketers could utilise this in promoting their innovations. Moreover, marketers could utilise consumers' religiosity by stressing the importance of SST in maintaining religious values. For instance, in conservative Islamic countries, religious people place stress on the important of gender segregation and women's role in raising children and looking after the house. Therefore, SST could be promoted through raising the awareness of the ability of SST to maintain this segregation and the ability of SST to allow women to do all her business without leaving home.

Living as they do in a highly social society, Muslims are usually influenced by others in their daily life. The same could be concluded in regard to technology acceptance. Thus marketers should consider this in their advertisements of the benefits of SST. Marketers can use social networks and celebrities to inform and convince Muslim consumers to use SST.

The effects of trust on consumers' technology adoption decisions have been supported by both current research findings and previous literature. In e-banking adoption studies, trust was considered as important factor in determining consumers' acceptance of IB. People need to trust IB before they make a decision to use it because of the financial risks associated with it. Thus, marketers of SST in general and of Internet only banks in particular need to emphasize the security level imposed and the safe environment provided online to influence consumers' trust. Moreover, due to the sensitivity of trust and risk in financial transactions, bankers should build websites that are worthy of trust. This could be accomplished through enhancing the encryption mechanisms of their websites. In addition, bankers need to provide their consumers with guarantees in case they encounter any fraudulent transactions.

Security is one of the most important concerns with e-commerce (Mukherjee & Nath, 2003) as fear of a lack of security can inhibit consumers from conducting e-transactions. Therefore, it is important to address this, especially with regard to Internet-only banks. The results of the present study indicate that perceptions of risk in Internet-only banks are important in determining consumers' intentions to use these banks. Thus, bankers need to be aware that consumers' perception of risk could be absorbed by consumers if banks are willing to provide them with guarantees if a problem occurs. Moreover, bankers could raise consumers' awareness of their bank's ability to maintain their privacy and security during their online banking experience. Bankers could do that by providing consumers with enough information about the procedures and regulations taken by bank and monetary agencies to secure financial institutions' websites.

The current study makes practical contributions to technology-based service marketers in general and e-banking managers in particular by providing them with various factors that have been empirically tested and show significant influences on consumers' attitudes and intentions to use Internet-only banks. Bankers need to understand that there are different consumer segments within one market, each of which has its own demands and preferences for e-banking services. Decision makers in the banking sector should not ignore these differences, and should design their marketing plans to satisfy the chosen segments. They also need to be aware of the differences within the culture, and never underestimate the power of the sub-cultural effect on consumers' adoption of products and services.

10.5 Limitations and suggestions for future research

This section of chapter nine is devoted to discussing this study's limitations and provides some recommendations of future studies in the field. The section starts with presenting this research limitation and the second section concentrates on discussing ideas for future research in the field of technology acceptance.

10.5.1 Limitations of the current research

The limitations of the current study can be placed into three categories. The first is related to the qualitative study, the second to the quantitative study and the third to the thesis in general. Each of these limitation categories is discussed in the following subsections.

10.5.1.1 The limitations of the qualitative study

First, because of gender segregation in a conservative Islamic country (such as Saudi Arabia) it was difficult to for the researcher to conduct the interviews with religious scholars by herself, due to the sensitivity of face-to-face meetings between men and women in conservative Saudi culture. Therefore, as has been discussed in section 6.5.1.4, the decision was made to conduct the interviews with religious scholars through

a third person whom the researcher had trained to administer the interviews. However, conducting the interviews with religious scholars through a third person deprived the researcher of the opportunity to probe for further details. In some cases the third person strayed from what had been planned for the interviews. Therefore, for the quality, reliability and validity of the interviews, it would be important for researchers to conduct interviews themselves rather than relying on a third person.

Second, the religious scholars' sample was dominated by Saudi religious scholars, except for one scholar who held another nationality and lived in the UK. Moreover, all the religious scholars in the sample were Muslim Sunni who belong to the 'Hanbale' Islamic school of thought. This limitation will influence the generalisability of the findings of the religious scholars semi-structured interviews, as there are many differences between Islamic religious denominations. In financial transaction issues, these differences sometimes become obvious (Nomani, 2003; Lewis, 2007; Nomani, 2007).

Third, there are the limitations related to the in-depth interviews with Muslim consumers. As has been stated before (see section 6.5.2.4), the in-depth interviews were conducted in the UK and Saudi Arabia. Even though interviews in the UK included Muslim consumers from different nationalities, the interviews in Saudi Arabia were limited to Saudi consumers. This may restrict the findings of the interviews to one nationality.

10.5.1.2 The limitations related to the quantitative study

First, this research was based on a cross-sectional survey. This study represents a 'snapshot' of consumer behaviour. Therefore, it could not explain changes in consumers' attitudes over time. One of the limitations of the cross-sectional design is that it only represents a slice of time, which means it neglects what really happens to consumers over time. Thus, changes in consumers' behaviour are not reflected when

using this design. Therefore, it would be more appropriate for further studies to employ a longitudinal design, as this would be able to reflect whether consumers' attitudes toward technology had changed over time.

Second, the generalisability of the study is limited to the sample utilised and its geographical scope. The sample for this study was limited to Saudi Arabia, so its findings do not necessarily apply to other Islamic countries because Saudi Arabia is one of the most conservative Islamic countries. Moreover, the data for the current study was collected from one single religious affiliation (Islam). Consumers from different countries and from different religious affiliations may have different perceptions of Internet-only banking. Therefore, the results of the current study should be interpreted as explaining only the behaviour of the Saudi Muslim consumers' acceptance of Internet-only banks.

Third, there is a limitation related to the sampling method employed in the present study. This study employed the convenience and judgemental sampling methods. These sampling methods have been used because of the accessibility and cost constraints (see section 8.5.5). Compared to random sampling, non-random sampling limits the researcher's ability to generalise the research finding to the wider population.

10.5.1.3 The limitations related to this thesis in general

First, the scope of the current study was limited to only one type of service-based-technology (Internet-only banks). Therefore, there are uncertainties that the findings of study can be applied to other forms of technology-based-services.

Second, the self-reported nature of data collection could introduce bias into the data. The use of self-reported data collection in cultural studies is often confused with different kinds of bias: for instance, social-desirability bias. In some cases, respondents

may give the socially desirable response instead of saying what they really think (Hebert et al., 1997).

Third, even though it is important to investigate usage behaviour rather than behavioural intention in studying Muslim consumers' Internet-only banking adoption decisions, the nature of this research forced the researcher to investigate behavioural intention as a predictor of consumers' usage behaviour. The Internet-only banks are not yet implemented within the research setting (Saudi Arabia). Therefore in this case it would have been impossible to investigate consumers' actual behaviour.

Despite the above limitations, the current study was able to provide valuable insights into the study of technology adoption.

10.5.2 Future research

The generalisability of the findings of this thesis could be improved by future investigation of other countries or/and other technologies. The expansion of the research population and sample by including more than one country could generate different findings. Moreover, the research could be replicated to investigate IT within other religious affiliations. It would be also useful to test the proposed model presented in the current study (figure, 9-1) in other countries using a random sampling technique in order to enhance the generalisability of the research findings on the population. Moreover, the model could be tested with reference to other technology-based-services.

In addition, future studies could extend the model to investigate actual usage rather than behavioural intention. This could be done by choosing to investigate technology-based services that are in use within the research setting rather than investigating the potential of consumers' use of SST that had not yet been introduced into the research setting.

There are varieties of elements that may influence consumers' perceptions of trust in Internet-only banks, for instance vendors' reputations (Jarvenpaa & Tractinsky, 1999), the religious identity of the website (Siala et al., 2004), and social norms (Venkatesh and Davis, 2000). Future researchers could investigate the influence on consumers' trust of the type of the services provided by e-vendors. Moreover, it would be useful to investigate the moderating influence of the type of the service provided by SST on the relationship between perceived risk and behavioural intention.

Another area for future investigation is the impact of gender differences on e-banking behaviour within different religious affiliations. More qualitative study is recommended to explore the differences between genders in regard to different aspects of SST acceptance such as differences in their preference of e-banking methods, perceptions of risk and their need for human interaction. Moreover, more studies are required to investigate consumers' need for human interaction. Studies investigating the influence of the level of service standardisation on consumers' need for human interaction are important to determine the factors that may lead consumers to prefer face-to-face interactions with their service providers.

There is also a need to further investigate Schwartz human values priorities in Islamic countries by conducting studies into how values priorities may be influenced by gender, age, education and religiosity. Studies comparing priorities of values and the influences of religion and religiosity on consumers' behaviour among Muslim immigrants in Western countries could also be useful.

In addition, it is suggested that future studies could examine the use of technology within Islamic countries for religious purposes. Future studies could also investigate how religious people perceive, accept, adopt and utilise technologies such as the Internet to strengthen their religious beliefs or fulfil their religiosity and how this use of technology may influence the diffusion of technology.

Previous studies indicated that religion has played important role in shaping individual behaviour. Therefore, it is important to increase the understanding of the relationship between religion and consumer behaviour. Studying the influence of religion and religiosity on consumer technology acceptance behaviour is useful but it would be more valuable if the study compared the influence of the same religion in IT acceptance in different countries that practice the same religion on different levels. For example, studying the influence of Islamic religion on consumers' IT acceptance in Islamic countries that are open to change (Malaysia), more conservative (Saudi Arabia), and secular (Turkey).

It would also be advantageous to compare the influence of religion and religiosity on technology-based-services by using different SSTs, such as the e-stock exchange, e-shopping, and e-banking.

10.6 Conclusions

The final chapter of this thesis discusses the findings of the study, presents the study implications both for theory and practice, as well as the study's limitations, and makes recommendations for future researches.

This thesis was conducted with the aim of identifying the factors that may influence Muslim consumers' adoption of self-service technology, Internet-only banks in particular. A model was proposed as a result of the literature review study (figure 9-1). This integrates variables from three of the well-cited acceptance models; TRA, IDT, and TAM. It also extends the integrated models by including perceived risk, perceived trust, consumers' need for human interaction, awareness, previous experience, human values, religiosity, Muslim consumers willingness to accept religious scholars advice, and the importance consumers give on obtaining Islamic banking through Internet only banks.

This study has indicated that the understanding of religion is important for businesses. The effect of religion on businesses working or planning to work in countries where the state and religion are highly correlated is considerable as the governments of these countries consider religion as a form of legislature. Therefore, religious leaders have great respect in these countries and may influence business regulations. Also, religious leaders in these countries influence consumer behaviour as people consider them a crucial reference for what is religiously allowed or prohibited.

The results of the current study also support the important role of religiosity in shaping consumer attitudes, perception of risk, trust, innovativeness, the need for human interaction, values, and their choices of products and services. Thus, it is crucial not to neglect the role of religiosity as an explanatory variable in predicting consumer behaviour. Even though the importance of religion in determining human behaviour in general and consumption behaviour in particular was indicated by the research, the influence of religion requires more study. Therefore, there is a need to develop more understanding of the influence of religion on consumer behaviour in different contexts and different research settings.

This study also focused on understanding the role of human values on consumers' Internet only banks adoption. The results of the present study were disappointing, as many of the hypotheses regarding the relationship between human values and consumer attitudes and behavioural intention were not supported. However, these results still gave some indications of the direction of the relationships. Furthermore, this study was conducted in only one country with specific cultural characteristics and it investigated the acceptance of only one type of SST. Therefore, more studies in different cultural contexts and different SSTs are needed to further an understanding of the role of values in consumers' SST adoption behaviour.

This study has also identified factors that significantly influence consumers' intention to use Internet-only banks. These are perceived risk, perceived trust, and

perceived observability. This study was also able to explain 56percent of the variance in behavioural intention and 52percent of consumers' attitudes toward Internet-only banks. In addition, the current study examines TAM cultural sensitivity. The results show that the two paths of TAM are sensitive to religiosity levels.

To conclude, consumer technology acceptance is a complex but important phenomenon that needs to be studied in depth .The present study is an attempt to explain some of the factors that contribute to consumers' technology acceptance within the Internet only banks context. There is a continuing need, however, for extensive research in the field to explore the various factors that may contribute to explaining consumers' technology adoption behaviour, especially in developing countries, because this phenomenon has not yet been explored in enough depth.

References

- Abbasi, M. S., Chandio, F. H., Soomro, A. F. & Shah, F. (2010). Social influence, voluntariness, experience and the internet acceptance: An extension of technology acceptance model within a South-Asian country context. *Journal of Enterprise Information Management*, 24(1): 30 – 52.
- Abbasi M. S. (2011). Culture, demography and individuals' technology acceptance behaviour: A PLS based structural evaluation of an extended model of technology acceptance in South-Asian country context, PhD Thesis, Brunel University, UK.
- Abdul-Gader, Abdulla H & Kozar Kenneth A. (1995). The Impact of Computer Alienation on Information Technology Investment Decisions: An Exploratory Cross-National Analysis. *Management Information Systems Quarterly*, December, 19 (4): 535-559.
- Abdullah, T. & Siddique, S. (1986). *Islam and society in Southeast Asia*. Singapore: Institute of Southern Asian Studies.
- Abhik, Roy. (1994). Correlates of mall visit frequency. *Journal of Retailing*, 70 (2, Summer), 139–161, ISSN 0022-4359, 10.1016/0022-4359(94)90012-4. (<http://www.sciencedirect.com/science/article/pii/0022435994900124>)
- Abu-Shanab E., Pearson J., & Setterstrom A. (2010). Internet banking and customers' acceptance in Jordan: the unified model's perspective. *Communications of the Association for Information Systems (CAIS)*, 26 (Article 23): 493–525.
- Abu Shanab. E. A. (2005). *Internet banking and customers' acceptance in Jordan: The unified model's perspective*. PhD thesis. Southern Illinois University at Carbondale
- Adams, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived usefulness, ease of use, and usage of information technology: A replication. *MIS Quarterly*, 16(2): 227–247.
- Agarwal, R. & Karahanna, E. (2000). Time flies when you're having fun: cognitive absorption and beliefs about information usage. *MIS Quarterly*, 24(4): 665–694.
- Agarwal, R. & Prasad, J. (1999). Are Individual Differences Germane to the Acceptance of New Information Technologies?. *Decision Sciences*, 30: 361–391. doi: 10.1111/j.1540-5915.1999.tb01614.x
- Agarwal, R. & Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research*, 9 (2): 204–215.
- Agrawal, R. & Prasad, J. (1998). The antecedent and consequences of user perceptions of information technology adoption of user perceptions of information technology adoption. *Decision support systems*, 22: 15–29.
- Agarwal, R., & Prasad, J. (1997). The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies. *Decision sciences*, 28(3): 557-582.

- Ahire, S. L., & Devaraj, S. (2001). An empirical comparison of statistical construct validation approaches. *Engineering Management, IEEE Transactions on*, 48(3): 319-329.
- Ahmed, M. (2004). Islamic versus traditional banking in Arab Region: Premises and promises, *International Seminar on The prospects of Arab economic cooperation to boost saving and investment*,. Alexandria: Egypt.
- Ainuddin, R. A., Beamish, P. W., Hulland, J. S. & Rouse, M. J. (2007). Resource attributes and firm performance in international joint ventures. *Journal of World Business*, 42(1): 47–60.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In: J. Kuhl and J. Beckmann (Eds). *Action control: From cognition to behaviour* (pp. 11–39): Springer.
- Ajzen, I. (2002). Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behaviour. *Journal of Applied Social Psychology*, 32: 665-683.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Milton-Keynes, England: Open University Press & Chicago, IL: Dorsey Press.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2): 179–211.
- Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall.
- Ajzen, I. & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22(5): 453–474.
- Akter, S., D'Ambra, J. & Ray, P. (2011). An evaluation of PLS based complex models: The roles of power analysis, predictive relevance and GOF index (2011). *AMCIS 2011 Proceedings - All Submissions*. Paper 151. http://aisel.aisnet.org/amcis2011_submissions/151.
- Al-Abdul-Gader, A. H. (1999). Managing computer based information systems in developing countries: A cultural perspective. IGI Global.
- Aladwani, A. (2001). Online banking: a field study of drivers, development, challenges and expectations. *International Journal of Information Managment*, 21: 213–225.
- AlAwadhi, S., & Morris, A. (2008). The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait. In *Hawaii International Conference on System Sciences, Proceedings of the 41st Annual* (pp. 219-219).
- Al-Ashban, A. A. & Burney, M. A. (2001). Customer adoption of tele-banking technology: the case of Saudi Arabia. *International Journal of Bank Marketing*, 19(5): 191–201.
- Alba, J., Lynch, J., Weitz, B., Janiszewski, C., Lutz, R., Sawyer, A., & Wood, S. (1997). Interactive home shopping: consumer, retailer, and manufacturer incentives to participate in electronic marketplaces. *The Journal of Marketing*, 38-53.
- Albehairi, A. & Demerdash, A. (1988). Religious orientation scale. 2nd edition. Cairo, Egypt.

- Albers, S. (2009). PLS and success factor studies in marketing. In: V. Esposito Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods, and applications*. Berlin: Springer.
- Albirini, A. (2006). Teachers' attitudes toward information and communication technologies. *Journal of Computer & Education*, 47: 373–398.
- Al-Baghawi, (2011). Interpretation of Sūratu an-Nisā. Retrieved: 1/1/2011, from <http://www.qurancomplex.org/Quran/tafseer/Tafseer.asp?l=arb&t=baghawi&nSora=1&nAya=1>
- Aldás-Manzano, J., Lassala-Navarré, C. Ruiz-Mafé, C. and Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing*, 27(1): 53 – 75.
- Aldraehim, M. S. (2013). *Cultural impact on e-service use in Saudi Arabia*. Ph.D. Thesis, Queensland University of Technology, Brisbane, Australia.
- Al-Ebraheem, M. (1986). *Hokom Ejra'a al-Oquud bewasa'el al-Etesalat al-Hadeetha* Jordan: Dar al-Dhiya.
- Aleid, F., Rogerson, S., & Fairweather, B. (2009). Factors Affecting Consumers Adoption of Ecommerce in Saudi Arabia from a Consumers' Perspective. In *IADIS International Conference e-Commerce* (pp. 11-18).
- Alghaith, W. A., Sanzogni, L. & Sandhu, K. S. (2010). *Factors influencing the adoption and usage of online services in Saudi Arabia*. City University, Hong Kong.
- Al-Gahtani, S. S. & King, M. (1999). Attitudes, satisfaction and usage: Factors contributing to each in the acceptance of information technology. *Behaviour & Information Technology*, 18(4): 277–297.
- Al Gahtani, S. (2001). The applicability of TAM outside America: An empirical test in the United Kingdom. *Information Resources Management Journal*, 14(3): 37–46.
- Al Gahtani, S. (2003). Computer technology adoption in Saudi Arabia: Correlates of perceived innovation attributes. *Information Technology For Development*, 10: 57–69.
- Al Gahtani, S. (2004). Computer technology acceptance success factors in Saudi Arabia: An exploratory study. *Journal of Global Information Technology Management*, 7(1): 5–29.
- Al Gahtani, S. (2008). Testing for the applicability of the TAM model in the Arabic context: Exploring an extended TAM with three moderating factors. *IGI Global*, 21(4): 1–25.
- Al-Ghaith, W. A., Sanzogni, L., & Sandhu, K. (2010). Factors influencing the adoption and usage of online services in Saudi Arabia. *The Electronic Journal of Information Systems in Developing Countries*: 40.
- Al-Hajri, S. (2005). *Internet technology adoption in the banking industry*. Victoria University of Technology, Melbourne, Australia.
- Al-Hajri, S. & Tatnall, A. (2008). Technological innovation and the adoption of Internet banking in Oman. *The Electronic Journal for Virtual Organizations and Networks*, Volume 10, “Special Issue on Living Labs”, August 2008.
- AlHazmi, H. J. (2010). National Culture and Knowledge Sharing Practices: Empirical Study in the Context of the Procurement of Educational Building Projects in Saudi Arabia. Griffith University, Gold Coast.

- Al-Jarf, M. (2010). eBanking in Saudi Arabia: Trends and perspectives. Umm al-Qura University. Retrieved: 20/03/2012, from <http://www.minshawi.com/node/1124>
- Al-Joroshy, S. (2003). *Nadatiah al-Aqd we al-Khiyarat fi al-Figh al-Esslamy al-Moqaran*. Libya: Dar al-Kotob al-Watanyya.
- Al-Khalidi, M. A., & Olusegun Wallace, R. S. (1999). The influence of attitudes on personal computer utilization among knowledge workers: the case of Saudi Arabia. *Information & Management*, 36(4), 185-204.
- Allport, G. W. & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, 5(4): 432–443.
- Al Munajjed, M. (1997). *Women in Saudi Arabia Today*: Macmillan. United Kingdom.
- Al-Mudimigh, A., Zairi, M., & Al-Mashari, M. (2001). ERP software implementation: an integrative framework. *European Journal of Information Systems*, 10 (4): 216-226.
- Al Mohaimmeed, B. M. (2012). *Customer behaviour towards Internet banking: a study of the dormant users of Saudi Arabia*. Ph.D. Thesis, University of Birmingham, UK.
- AL-Majali, M. & Nik Mat, N. (2011). Modeling the antecedents of internet banking service adoption (IBSA) in Jordan: A structural equation modeling (SEM) approach. *Journal of Internet Banking and Commerce: An Open Access Internet Journal* 16 (April,1).
- AL-Majali, M. (2011). The Use of Theory Reasoned of Action to Study Information Technology in Jordan. *Journal of Internet Banking and Commerce: An Open Access Internet Journal of Internet Banking and Commerce*, 16 (August, 2).
- Al Madina newspaper. (2011). Retrieved: 12/10/2011, from <http://al-madina.com/node/313179> {name of article and author needed. Article should be alphabetised by author name.}
- Al Mogbil, A. (2005). *Security, peceptions, and practices: Challenges facing adoption of online banking in Saudi Arabia*. Unpublished PhD thesis. The George Washington University, Washington.
- Al Mojtma. (1990). Al Mojtma Journal, 6 (2): 785. from www.fiqhacademy.org.sa/qararat/6-3.htm.
- Al-Olayan, F. S. & Karande, K. (2000). A content analysis of magazine advertisements from the United States and the Arab World. *Journal of Advertising*, 29 (3): 69–82
- Al-Qeisi, K. I. (2009). *Analyzing the use of UTAUT Model in explaining an online behaviour: Internet banking adoption*. Unpublished . A thesis submitted for the degree of Doctor of Philosophy. Brunel University.
- Al-Salem, S. (2005). *The impact of the Internet on Saudi Arabian EFL females' self-image and social attitudes*. Indiana University of Pennsylvania.
- Al-Sultan, W. (1999). *Financial characteristics of interest-free banks and conventional banks*, Ph.D. Dissertation, University of Wollongong, N.S.W.
- Al Saadi (2011). Quran Interpretation. Retrieved: 1/1/2011, from http://www.qurancomplex.org/Quran/tafseer/Tafseer.asp?l=arb&t=saady&nSora=1&nAya=1#1_1

- Al Somali, S., Gholami, R. & Clegg, B. (2009). An Investigation into acceptance of online banking in Saudi Arabia. *Tehnovation*. Retrieved: 21-11-2008 from <http://dx.doi.org/10.1016/j.technovation.2008.07.004>
- Al Sukkar, A. & Hassan, H. (2005). Towards a model for the acceptance of Internet banking in developing countries. *Information Technology for development*, 11(4): 381–398.
- Al-Tayyar, A. (1997). *Khiyara al-Majles wa al-Aeeb fi al-Figh al-Eslami*. Saudi Arabia: Dar al-Maseer.
- Al-Ubaydli, M. & Deans, L. (2003). Introduction of handheld computers into the haematology department of a district general hospital. *The Internet Journal of Pediatrics and Neonatology*, 3(1).
- Alsajjan, B. & Dennis, C. (2010). Internet Banking Acceptance Model: Cross-Market Examination. *Journal of Business Research*, 63 (9-10): 957-963.
- Alsajjan, B. (2009). The relative importance of trust intentions and trust beliefs in Internet banking adoption. *International Review of Business Research Papers*, 5(6): 231–247.
- Alsajjan, B. & Dennis, C. (2006). The Impact of trust on acceptance of online banking. *European Association of Education and Research in Commercial Distribution*. June 2006: 27–30. Brunel University –West London, United Kingdom.
- Al-Saggaf, Y., & Williamson, K. (2004, September). Online communities in Saudi Arabia: Evaluating the impact on culture through online semi-structured interviews. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 5 (3).
- Al-Shudukhi, H. (1989). *Marketing of bank services to the Saudi consumer*. Ph.D. Thesis, University of Stirling, UK.
- Al-sanie, S. I. (1989). *Relationship between level of religiosity and criminal behavior*. Imam Muhammad Ibn Suad Islamic University, Riyadh, Saudi Arabia.
- Alvesson, M., & Sköldbberg, K. (2009). *Reflexive methodology: New vistas for qualitative research*. Sage.
- Alzaagy, A. (2007). The Islamic concept of meeting place and its application in e-commerce. *Masaryk University Journal of Law and Technology*, 1(1), ISSN 1802–5943.
- Amin, H. & Pagar, J. S. P. (2010). Factors affecting the decisions of Tabung Haji customers in Malaysia to use ATM banking: An empirical investigation, *Journal of Internet Banking and Commerce*, August 2010, 15(2). <http://www.arraydev.com/commerce/jibc/>
- Amin, H., & Ramayah, T. (2010). SMS banking: explaining the effects of attitude, social norms and perceived security and privacy. *The Electronic Journal of Information Systems in Developing Countries*, 41.
- Anderson, W., & Claes, F. (1994). *A Customer satisfaction Research Prospectus*. Thousand Oaks, CA: Sage Publications.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3): 411.

- A.Wiki. (2011). Saudi Arabia. *Wikipedia*. (2011). Retrieved: 08-12-2013 from: http://en.wikipedia.org/wiki/Saudi_Arabia}
- Arnaboldi, F., & Claeys, P. (2008). Internet banking in Europe: a comparative analysis. *Documents de Treball (IREA)*, (11), 1.
- Arjun, P. (1998). An evaluation of the proposed new curriculum for schools in relation to Kuhn's conception of paradigms and paradigm shifts. *South African Journal of Higher Education*, 12(1): 20–26.
- Armfield, G., & Holbert, R. (2003). The relationship between religiosity and Internet use. *Journal of Media and Religion*, 2(3): 129–144.
- Armitage, C. J. and Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40: 471–499.
- Arnould, E., Price, L. & Zikhan, G. (2004). *Consumers*. 2nd ed. New York: McGraw-Hill.
- Aroian, L. A. (1944/1947). The probability function of the product of two normally distributed variables. *Annals of Mathematical Statistics*, 18: 265–271.
- Aronson, J. (1992). *The interface of family therapy and a juvenile arbitration and mediation program*. Unpublished doctoral dissertation, Nova Southeastern University, Fort Lauderdale, FL.
- Arts, J. W. C., Frambach, R. T. & Bijmolt, T. H. A. (2011). Generalizations on consumer innovation adoption: A meta-analysis on drivers of intention and behavior. *International Journal of Research in Marketing*, 28 (2): 134–144.
- Asad, T. (1993). *Genealogies of religion: Discipline and reasons of power in Christianity and Islam* (London: Johns Hopkins University Press).
- Assael, H. (1992). *Consumer behavior and marketing action*. Boston: PWS-Kent.
- Attewell, P. (1992). Technology Diffusion and Organizational Learning: The Case of Business Computing." *Organization Science*, Volume 3: 1-19.
- Audioenglish.net. (2011). Retrieved: 11/12/2011, from http://www.audioenglish.net/dictionary/religious_leader.htm#top.
- Avery, R. B., Bostic, R. W., Calem, P.S. & Canner, G. B. (1997). Changes in the distribution of banking offices. *Federal Reserve Bulletin*, 83(9): 707–725.
- Ayres, L. (2008). Thematic coding and analysis. In: Given, Lisa M. . (Ed.), *The SAGE encyclopedia of qualitative research methods* (pp. 867–868): SAGE Publications, Inc.
- Aziz, M., Liu, Z., Johnson, G., Zhang, H., Chen, J., Wu, H. & Jiang, H. (2007). Investigating the use and adoption of self-service technology in China. Retrieved: 15 April 2009, from <http://www.springerlink.com/index/5pm52412q27x7x40.pdf>
- Azzam, H. (1992). Defining marketing strategies for the Saudi consumer. *Middle East Executive Reports*, 15 (12): 9–18.
- Babbie, E. (2001). *The Practice of Social Research*. London: Wadsworth, Thomson Learning.
- Babbie, E. & Mouton, J. (2001). *The practice of social research*. Cape Town: Oxford University Press.

- Bagchi, K. & Kirs, P. (2009). Group analysis at regional levels can be meaningful in global IS research. *Journal of Global Information Technology Management*, 12(4): 1–4.
- Bagchi, K. M. P. & Mukhopadhyay, A. (2011). Attitude towards technology development: A cross-cultural study of India and the USA. *International Journal of Information Systems and Change Management* 5(1): 3 – 21.
- Bagozzi, R., Wong, N., Abe, S. & Bergami, M. (2000). Cultural and situational contingencies and the theory of reasoned action: Application to fast food restaurant consumption. *Journal of Consumer Psychology*, 9 (2): 97–106.
- Bagozzi, R. P. (2007). The legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the Association for Information Systems*, 8(4).
- Bailey, J. M. and Sood, J. (1993). The effect of religious affiliation on consumer
- Bartlett II, J. E., Kotrlik, J.W. & Higgins, C.C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1): 43–50.
- Bandura, A. (1982). The assessment and predictive generality of self-percepts of efficacy. *Journal of Behavior Therapy and Experimental Psychiatry*, 13: 195–199.
- Barnes, S. (2009). Strength of religious faith, trusting beliefs and their role in technology acceptance. *International Journal of Innovation and Learning*, 6(1): 110–126.
- Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51: 1173–1182.
- Bartke, Stephan & Schwarze, Reimund, (2008). Risk-Averse by Nation or by Religion? Some Insights on the Determinants of Individual Risk Attitudes. SOEP paper No. 131. Available at SSRN: <http://ssrn.com/abstract=1285520> or <http://dx.doi.org/10.2139/ssrn.1285520>.
- Barker, Andy, Clive Nancarrow & Nigel Spackman. (2001). Informed Eclecticism: a Research Paradigm for the Twenty-first Century. *International Journal of Market Research*. Vol.43. Quarter 1.
- Bateson, J. E. (1985). Self-service consumers: An exploratory study. *Journal of Retailing*, 61(3): 49–77.
- Baumgartner, H. & Homburg, C. (1996). Applications of structural equation modelling in marketing consumer research: A review. *International Journal of Research in Marketing*, 1(3): 139–161.
- Bauwens, M. (1999). Is a new kind of basis of society—the “cyber-sacred”—beginning to take shape? *Cybersociology*. Retrieved: 01 05 2003 from <http://www.socio.demon.co.uk/magazine/7/rossi.html> .
- BBC, N. (2001). High street banks beating net, *BBC*.(2001). Retrieved: 03 12 2008 from <http://news.bbc.co.uk/1/hi/business/1655602.stm>
- BBC, N. (2005). British immigration map revealed from <http://news.bbc.co.uk/1/hi/uk/4218740.stm>
- Beatty, S. E. & Talpade, S. (1994). Adolescent influence in family decision making: A replication with extension. *Journal of Consumer Research*, 21(2): 332–341.

- Beatty, S. E., Kahle, L. R., Homer, P. & Misra, S. (1985). Alternative measurement approaches to consumer values: The list of values and the Rokeach value survey. *Psychology and Marketing*, 2(3): 181–200.
- Becker, B. W. & Conner, P. (1981). Personal values of the heavy user of mass media. *Journal of Advertising Research*, 21(May): 37–43.
- Beckett, A., Hewer, P. & Howcroft, B. (2000). An exposition of consumer behaviour in the financial services industry. *International Journal of Bank Marketing*, 18(1): 15–26.
- Bejou, D. (1997). Relationship marketing: Evolution, present State and future. *Psychology & Marketing*, 14(8): 727–736.
- Belzen, J. A. (1999). Religion as embodiment: Cultural-psychological concepts and methods in the study of conversion among "Bevindelijken". *Journal for the Scientific Study of Religion*, 38(2): 236–253.
- Benbassat, I., & Barki, H. (2007). Quo Vadis, TAM? *Journal for the Association of IS* 8: 211–218.
- Bentler, P. M. & Savalei, V. (2010). Analysis of correlation structures: Current status and open problems. In: S. Kolenikov, L. Thombs, & D. Steinley (Eds.), *Recent Methodological Developments in Social Science Statistics* (pp. 1–36). Hoboken, NJ: Wiley.
- Bergan, A. & McConatha, J. T. (2001). Religiosity and life satisfaction. *Activities, Adaptation & Aging*, 24(3): 23–34.
- Berkman, H. W., Lindquist, J. D. & Sirgy, M. J. (1997). *Consumer behavior*. Chicago, IL: NTC Publishing Group.
- Bhatnagar, A., Misra, S. & Rao, H.R. (2000). On risk, convenience and Internet shopping behaviour. *Communications of the ACM*, 43(11): 98–105.
- Bhatti, T. (2007). Exploring factors influencing the adoption of mobile commerce. *Journal of Internet Banking and Commerce*, 3(12): 1–13.
- Bhimani, A. (1996). Securing the commercial internet. *Communication of the ACM*, 39: 29–31.
- B, Wiki. (2011). Sharia. Retrieved: 01/12/2011, from *Wikipedia*.
<http://en.wikipedia.org/wiki/Sharia>
- Bieger, G. R. & Gerlach, G. J. (1996). *Educational research: A practical approach*. Albany, NY: Delmar Publisher.
- Bisman, J. (2010). Post-positivism and accounting research: A (personal) primer on critical realism. *Australasian Accounting Business and Finance Journal*, 4(4): 3–25.
- Bjorn, P., Fitzgerald, B. & Scupola, A. (2003). The role of social awareness in technology acceptance of groupware in virtual learning teams. *26th Annual Information Research in Scandinavia (IRIS) Conference*, August 2003.
- Black, N., Lockett, A., Winklhofer, H. & Ennew, C. (2001). The adoption of internet financial services: A qualitative study. *International Journal of Retail & Distribution Management Decision*, 29(8): 390–398.
- Blake, W. J., Kaern, M., Cantor, C. R. & Collins, J. J. (2003). Noise in eukaryotic gene expression. *Nature*, 422: 633–637.

- Bobbitt, L. M. & Dabholkar, P. A. (2001). Integrating attitudinal theories to understand and predict use of technology-based self-service: The Internet as an illustration. *International Journal of Service Industry Management*, 12(5): 423–450.
- Booker Lorne, D. & Bontis, N (2007). The mediating effect of organizational reputation on customer loyalty and service recommendation in the banking industry. *Canada Management Decision* 45 (9):1426-1445. DOI 10.1108/00251740710828681
- Bourne, F. S. (1957). In: R. Likert and S. P. Hayes (Eds.), *Group influence in marketing and public relations, some applications of behavioral research*. Basil, Switzerland: UNESCO.
- Bourges-Waldegg, P. & Scrivener, S. A. R. (2000). Applying and testing an approach to design for culturally diverse user groups. *Interacting with Computers*, 13(2): 111–126. ISSN 0953-5438, 10.1016/S0953-5438(00)00029-1. (<http://www.sciencedirect.com/science/article/pii/S0953543800000291>).
- Bowen, E. (1986). Managing customers as human resources in service organization. *Human Resource Management*, 25(Fall): 371–383.
- Bowen, J. R. (1998). *Religions in practice: An approach to the anthropology of religion*. Boston: Allyn & Bacon.
- Boyatzis, R. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage Publications.
- Branca, A. S. (2008). Demographic influences on behaviour. *International Journal of Bank Marketing*, 26 (4): 2.
- Brancheau, J. C. & Wetherbe, J.C. (1990). The adoption of spreadsheet software: Testing innovation diffusion in the context of end-user computing. *Information Systems Research*, 1(2): 115–143.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2): 77–101.
- Brewer, J. & Hunter, A. (1989). *Multimethod research: A synthesis of styles*. Newbury Park, CA: Sage
- Brewer, J. & Hunter, A. (2006). *Foundations of multimethods research: Synthesizing*. Thousand Oaks, California: Sage Publications.
- Brown, B. & Buys, M. (2005). A cross-cultural investigation into customers satisfaction with internet banking security. Paper presented at the *Proceedings of SAICSIT*, White River, South Africa.
- Brown, I. (2002). Individual and technological factors affecting perceived ease of use of web-based learning technologies in a developing country. *The Electronic Journal of Information Systems in Developing Countries*, 9 (5): 1–15.
- Brown, I., & Buys, M. (2005, July). A cross-cultural investigation into customer satisfaction with Internet banking security. In *Proceedings of the 2005 annual research conference of the South African Institute of Computer Scientists and Information Technologists on IT Research in Developing Countries* (pp. 200-207). South African Institute for Computer Scientists and Information Technologists.
- Brown, I., Hoppe, R., Mugeru, P., Newman, P., & Stander, A. (2004). The impact of national environment on the adoption of internet banking: comparing Singapore

- and South Africa. *Journal of Global Information Management (JGIM)*, 12(2), 1-26.
- Bryman, A. (1998). *Quantity and Quality in Social Research*. London: Unwin Hyman Ltd.
- Bryman, A. (2001). *Social Research Methods*. Oxford: Oxford University Press
- Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative Research February (6)*: 97–113. doi:10.1177/1468794106058877
- Byrne, B. (2004) Qualitative Interviewing, in Seale, C. (ed) *Researching Society and Culture*, 2nd edition. Sage Publications: London
- Buetow, S. (2009). Thematic analysis and its reconceptualization as ‘saliency analysis’. *J Health Serv Res Policy April 2010 15*:123–125. Retrieved on 01-03-2009 from doi:10.1258/jhsrp.2009.009081.
- Burkhardt, M. E. & Brass, D.J. (1990). Changing patterns or patterns of change: The effect of a change in technology on social network structure and power. *Administrative Science Quarterly*, 35: 104–127.
- Burrell, G. & Morgan, G. (1979). *Social paradigms and organizational analysis*. London: Heinemann Books.
- Burton-Jones, A., & Hubona, G. S. (2006). The mediation of external variables in the technology acceptance model. *Information & Management*, 43(6), 706-717.
- Buys, M., & Brown, I. (2004, October). Customer satisfaction with Internet banking web sites: an empirical test and validation of a measuring instrument. In *Proceedings of the 2004 annual research conference of the South African institute of computer scientists and information technologists on IT research in developing countries* (pp. 44-52). South African Institute for Computer Scientists and Information Technologists.
- Cai, Y. & Shannon, R. (2010). Personal values and mall shopping behavior: The mediating role of attitude and intention among Chinese and Thai consumers. *Australasian Marketing Journal (AMJ)*, 20(1): 37–47.
- Calder, B. J. (1977). Focus groups and the nature of qualitative marketing research. *Journal of Marketing Research*, 14: 353–364.
- Calder, N. & Hooker, M. B. (1974). *The encyclopaedia of Islam*. Leiden.
- Campbell, D. (2007). Cost Structure, Customer Profitability, and Retention Implications of Self-Service Distribution Channels: Evidence from Customer Behavior in an Online Banking Channel. Retrieved: 02-11-2008, from http://www.gsb.stanford.edu/FACSEMINARS/events/oit/documents/oit_04_08_frei_paper2.pdf
- Campbell, D. T. & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56: 81–105.
- Carlsson, C., Carlsson, J., Hyvonen, K., Puhakainen, J., & Walden, P. (2006, January). Adoption of mobile devices/services—searching for answers with the UTAUT. In *System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference on* (Vol. 6, pp. 132a-132a). IEEE.
- Carman, J. M. (1977). *Values and consumption patterns: Closed loop*. Ann Arbor, MI: Association for Consumer Research.

- Carson, D., & Coviello N. (1996). Qualitative research issues at the marketing/ entrepreneurship interface. *Marketing Intelligence & Planning*, 14 (6): 51-58.
- Carson, D., Gilmore, A., Perry, C. & Gronhaug, K. (2001). *Qualitative marketing research*. London: Sage.
- Central Department of Statistics and Information. (2011). Statistical yearbook. Retrieved: 01-12-2011, from <http://www.cdsi.gov.sa/>
- Central Department of Statistics and Information. (2008). Saudi population 2010. Retrieved: 12 12 2011 from <http://www.cdsi.gov.sa/english/>
- Chang, K.C., Chen, M.C., Hsu, C.L. & Kuo, N.T. (2012). Integrating loss aversion into a technology acceptance model to assess the relationship between website quality and website user's behavioural intentions. *Total Quality Management & Business Excellence*, 1–18.
- Chapra, M. U. (1992). *Islam and the Economic Challenge*. Leicester, UK: The Islamic Foundation.
- Chau, P. Y. K. & Hu, P. J. H. (2001). Information technology acceptance by individual professionals: A model comparison approach. *Decision Science*, 32 (4): 699–719.
- Chau, P. Y. K. & Lai, V. S. K. (2003). An empirical investigation of the determinants of user acceptance of Internet banking. *Journal of Organizational Computing and Electronic Commerce*, 13(2): 123–145.
- Cheung, G. W & Lau, R. S. (2008). Testing Mediation and Suppression Effects of Latent Variables: Bootstrapping With Structural Equation Models. *Organizational Research Methods*, 11 (296), DOI: 10.1177/1094428107300343.
- Cheung, C. & Lee, M. (2000). Trust in Internet Shopping: A proposed model and measurement. *Proceedings of the 6th Americans conference on information systems* (pp. 681–689).
- Chen, L., Gillenson, M. I. & Sherrell, D. L. (2002). Enticing online consumers: An extended technology acceptance perspective. *Information & Management*, 39 (8): 705 – 719.
- Chen, G., McAvoy, T. J., & Piovoso, M. J. (1998). A multivariate statistical controller for on-line quality improvement. *Journal of Process Control*, 8(2), 139-149.
- Chen, L.D. & Tan, J. (2004). Technology Adaptation in E-commerce: Key Determinants of Virtual Stores Acceptance. *European Management Journal*, 22(1): 74 – 86.
- Cheng, T.C.E, Lam, D. Y. C. & Yeung, A. C. L. (2006). Adoption of internet banking: An empirical study in Hong Kong. *Decision Support Systems*, 42 (3), December 2006: 1558–1572.
- Chin, W. (2000). Partial least squares for IS researchers: An overview and presentation of recent advances using the PLS approach. *Proceedings of the twenty first international conference on information systems*, Association for Information Systems, Brisbane, Queensland, Australia: 741–742, .
- Chin, W. (1997). *Overview of the PLS method*. University of Houston. Retrieved: 01 01 2011 from <http://disc-nt.cba.uh.edu/chin/PLSINTRO.HTM>
- Chin, W. W. (2010). How to write up and report PLS analyses. In: Esposito Vinzi, V. {clarify editor's name}; Chin, W.W.; Henseler, J.; Wang, H. (Eds.), *Handbook*

- of partial least squares: Concepts, methods and application*: 645–689. Germany: Springer.
- Chin, W. W. & Newsted, P. R. (1999). Structural Equation Modeling analysis with Small Samples Using Partial Least Squares. In: R. Hoyle (ed.), *Statistical strategies for small sample research*. Thousand Oaks, CA: Sage Publications, pp. 307–341.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), vii–xvi.
- Chin, W. W., & Todd, P. A. (1995). On the use, usefulness, and ease of use of structural equation modeling in MIS research: a note of caution. *MIS quarterly*: 237-246.
- Chismar, W. G. & Wiley-Patton, S. (2003). Does the extended technology acceptance model apply to physicians. *Proceedings of the 36th Annual Hawaii International Conference on System Sciences (HICSS'03) - Track 6 - Volume 6*: IEEE Computer Society.
- Chiu, Chao-Min., Lin, Hua-Yang., Sun, Szu-Yuan., Hsu, Meng-Hsiang., (2009). Understanding customers' loyalty intentions towards online shopping: an integration of technology acceptance model and fairness theory. *Behaviour & Information Technology*, 28 (4): 347-360.
- Cho, Y.C. & Agrusa, J. (2006). Assessing use acceptance and satisfaction toward online travel agencies, *Information Technology and Tourism*, 8 (3–4): 179–195.
- Choden, K., Bagchi, K., Udo, G. & Kirs, P. (2010). Do Schwartz's value types matter in Internet use of individual developing and developed nations? *AMCIS 2010 Proceedings. Paper 438*. <http://aisel.aisnet.org/amcis2010/438>.
- Choudrie, J. & Lee, H. (2004). Broadband development in South Korea: institutional and cultural factors. *European Journal of Information Systems*, 13 (2):103-114(10).
- Choi, J. & Geistfeld, L.V. (2004). A cross-cultural investigation of consumer e-shopping adoption. *Journal of Economic Psychology* (25:6): 821-838.
- Chong, A.Y.-L., Ooi, K.-B., Lin, B. & Tan B.-I. (2010). Online banking adoption: An empirical analysis. *International Journal of Bank Marketing*, 28(4): 267 – 287.
- Chung, W., & Paynter, J. (2002). An evaluation of Internet banking in New Zealand. *Paper presented at the 35th Hawaii conference in System Sciences*.
- Clark, Theodore H. & Lee, Ho Geun. (1998). Security First Network Bank: A Case Study of an Internet Pioneer. *HICSS* (4):73-82.
- Clark, J. & Soliman, F. (1999). A graphical method for assessing knowledge-based systems investments. *Logistics Information Management*, 12(1–2): 63–77.
- Clark, R. & Goldsmith, R. (2006). Interpersonal influence and consumer innovativeness. *International Journal of Consumer Studies*, 30(January, 1): 34–43.
- Clawson, C. J. & Vinson, D.E. (1978). Human values: A historical and interdisciplinary analysis. *Advances in Consumer Research*, V, ACR:472–477.
- Cohen, J. & Cohen, P. (1983) *Applied multiple regression/correlation analysis for the behavioral science*, 2nd ed, Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*, Hillside, NJ: Lawrence Erlbaum.

- Compeau, D. R., & Higgins, C. A. (1995a). Application of social cognitive theory to training for computer skills. *Information Systems Research*, 6: 118–143.
- Cordeiro, C., Machas, A. & Neves, M.M. (2010). A case study of customer satisfaction problem: Bootstrap and imputation techniques. In *Handbook of Partial Least Squares Concepts, Methods and Applications*, eds. E.V. Vinzi, W.W. Chin, J.Henseler & H. Wang, Springer handbooks comp. statistics, Heidelberg.
- Cox, D. & Rich, S. (1964). Perceived risk and consumer decision marketing- the case of telephone shopping. *Journal of Marketing Research*, 1(4): 32–39.
- Craig, C. S. & Ginter, J. L. (1975). An empirical test of a scale for innovativeness. *Advances in Consumer Research*, 2: 555–562.
- Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed ed.): Boston : Pearson, c2012.
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research* (2nd.): Los Angeles : SAGE Publications.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. (1994). *Research Design: Quantitative approaches*. Thousand Oaks, CA: Sage Publications.
- Crotty, M. (1998). *The foundations of social research*. London: Sage Publications.
- Crystal, D. (1993). Language and the Internet. *The Cambridge Encyclopaedia*, 3rd ed. Cambridge: Cambridge University Press.
- Curran, P.J., West, S.G. & F. Finch, J.F. (1996). The robustness of test statistics to non-normality and specification error in confirmatory factor analysis. *Psychological Methods*, 1 (1): 16-29.
- Cunningham, A. (2007). How big Is “Islamic banking”? - a snapshot from Saudi Arabia. *Middle East Economic Survey. VOL. L* (41) (Oct): Saudi Arabia.
- Chung, J.T. (1998), Risk reduction in public accounting firms: are women more effective?, *International Review of Women and Leadership*, 4 (1): 39-45.
- Curran, J. M. & Meuter, M. L. (2005). Self-service technology adoption: Comparing three technologies. *Journal of Services Marketing*, 19(2): 103–113.
- Currie, W. (2000). *The Global Information Society*. Chichester, UK: Wiley.
- Curtis, S., Gesler, W., Smith, G. & Washburn, S. (2000). Approaches to sampling and case selection in qualitative research: Examples in the geography of health. *Social Science & Medicine* 50(7–8): 1001–1014.
- Curtis, L., Edwards, C., Fraser, K. L., Gudelsky, S., Holmquist, J., Thornton, K., & Sweetser, K. D. (2010). Adoption of social media for public relations by non profit organizations. *Public Relations Review*, 36 (1): 90-92.
- Cutler, B. D. (1991). Religion and marketing: Important research area or a footnote in the literature? *Journal of Professional Services Marketing* 8(1): 153–164.

- Cutler, B. D. & Winans, W. A. (1999). What do religion scholars say about marketing? Perspectives from the religion literature. *Journal of Professional Services Marketing* 18(2): 133–145.
- Chuttur, Mohammad, (2009). Overview of the Technology Acceptance Model: Origins, Developments and Future Directions. *All Sprouts Content*. Paper 290.
- Cupchik, Gerald. (2001). Constructivist Realism: An Ontology That Encompasses Positivist and Constructivist Approaches to the Social Sciences. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, [S.l.], 2 (1), feb. ISSN 1438-5627. Available at: <<http://www.qualitative-research.net/index.php/fqs/article/view/968/2112>>. Date accessed: 20 Jul. 2011.
- Cunningham, W. A., Johnson, M. K., Gatenby, J. C., Gore, J. C., & Banaji, M. R. (2003). Neural components of social evaluation. *Journal of Personality and Social Psychology*, 85: 639-649.
- Dabholkar, P., A. & Bagozzi, R. P. (2002). An attitudinal model of technology-based self-service: Modeling effects of consumer traits and situational factors. *Journal of Academy of Marketing Science*, 30: 184–201.
- Dabholkar, A. (1996). Consumer evaluation of new technology-based self-services options: An investigation of alternative model of services quality. *International Journal of Research in Marketing*, 13(1): 29–51.
- Dabholkar, Pratibha A. "Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality." *International Journal of research in Marketing* 13.1 (1996): 29-51.
- Dabholkar, P. A. (1992). Role of affect and need for interaction in on-site service encounters. *Advances in Consumer Research*, 19(1), 563-569.
- Daft, R. & Lengel, R. (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly*, 11(3): 355–366.
- Daft, R. & Lengel, R. (1984). Information richness: A new approach to managerial behaviour and organizational design. In: L.L. Cummings & B. Straw (Eds.). 6th ed, *Research in Organizational Behaviour* (pp. 191–233). Greenwich, CT: JAI Press.
- Daghfous, N. P., Petrov, J. V. & Pons, F. (1999). Values and adoption of innovations: A cross-cultural study. *Journal of Consumer Marketing*, 16(4): 314–331.
- Daniel, E. (1999). Provision of electronic banking in UK and Republic of Ireland. *International Journal of Marketing Research*, 17(2): 72–82.
- Dar, A. (2004). Demand for Islamic financial services in the UK: Chasing a mirage? Retrieved: 12 11 2008, from <http://creativecommons.org/licenses/by-nc-nd/2.5/>
- Dauda, Y., Santhapparaj, A., Asirvatham, D. & Raman, M. (2007). The impact of e-commerce security, and national environment on consumer adoption of Internet banking in Malaysia and Singapore. *Journal of Internet Banking and Commerce*, 12(2): 20.
- Davide, C. (2008). Co-evaluation of capabilities and performances in the adoption of new technologies. Retrieved: 13 03 2009 from <http://mpa.ub.uni-muenchen.de/7175/paper no.7175>

- Davidov, E., Schmidt, P. & Schwartz, S. H. (2008). Bringing values back in. *Public Opinion Quarterly*, 72(3): 420–445.
- Davis, F.(1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results*. Unpublished PhD Thesis. MIT.
- Davis, D. (1989). Perceived usefulness, perceived ease of use acceptance of information technology. *MIS Quarterly*, 13 (3): 319–339.
- Davis, F. D., Bagozzi, R. P. & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35 (8): 982–1003.
- De Ruyter, K. & Scholl, N. (1998). Positioning qualitative market research: Reflections from theory and practice, *Qualitative Market Research 1*: 7–14.
- De Vaus, D. (2001). *Research Design in Social Research*. London: Sage Publications.
- Delener, N. (1996). Religious contrasts in consumer decision behaviour patterns: Their dimensions and marketing implications. *European Journal of Marketing*, 28: 36–53.
- Delener, N. (1994). Religious contrasts in consumer decision behaviour patterns: Their dimensions and marketing implications. *European Journal of Marketing* 28(5): 36–53.
- Delener, N. (1990a). The effects of religious factors on perceived risk in durable goods purchase decisions. *The Journal of Consumer Marketing*, 7(3): 27–37.
- Delener, N. (1990b). An examination of the religious influences as predictors of consumer innovativeness. *Journal of Midwest Marketing* 5 (Spring): 167–178.
- Delener, N. (1989). Religious Differences in Cognitions Concerning External Information Search and Media Usage, R. King (Ed.) *Marketing: Positioning for the 1990s* (New Orleans, LA: Southern Marketing Association) (November 1989): 64–68.
- Delener, N. and Schiffman L.G. (1988). Family Decision Making: The Impact of Religious Factors, in G. Frazier et al.(Eds.), *Efficiency and Effectiveness in Marketing*(Chicago, IL: American Marketing Association) (Summer 1988): 80–83.
- Delener, N. (1987). *An exploratory study of values of Catholic and Jewish subcultures: Implications for consumer psychology*. Paper presented at the *World Marketing Congress Proceedings of the Third Bi-Annual International Conference*.
- Dennis, A. & Kinny, S. (1998). Testing Media Richness Theory in the new media: The effects of cues, feedback, and task equivocality. *Information Systems Research*, 9(3): 256–274.
- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. New York: McGraw-Hill.
- Denzin, N.K. & Lincoln, Y.S. (1994). Introduction: Entering the field of qualitative research. In: N.K. Denzin and Y.S. Lincoln. (Eds.), *Handbook of Qualitative Research*. (pp. 1–17). Thousand Oaks: Sage Publications.
- Denscombe, M. (2008). A research paradigm for the mixed methods approach. *Journal of Mixed Methods Research*, 2(3): 270–283. <http://jmmr.sagepub.com>.

- De Ruyter, N. & Scholl, N. (1998). Positioning qualitative market research: Reflections from theory and practice. *Qualitative Market Research: An International Journal*, 1(1): 7–14.
- Diaz, J. D. (2000). Religion and gambling in sin-city: A statistical analysis of the relationship between religion and gambling patterns in Las Vegas residents. *Social Science Journal*, 37 (3): 453–458.
- Dictionary reference. com. (2011). Religious leaders. from <http://dictionary.reference.com/browse/religious+leader>
- Dickson-Swift, V., James, E. L., & Liamputtong, P. (2008). What is sensitive research?. Undertaking Sensitive Research in the Health and Social Sciences: Managing Boundaries, Emotions and Risks, 1-10.
- Dillon, W. R., Madden, T. J. & Firtle, N. H. (1990). *Marketing research in a marketing environment*. Boston: Irwin.
- Dingfelder, H.E., & Mandell, .D.S. (2011). Bridging the research to practice gap in autism intervention: An application of diffusion of innovation theory. *Journal of Autism and Developmental Disorders*, 41: 597–609
<http://dx.doi.org/10.1007/s10803-010-1081-0>
- Dishaw, M. T. & Strong, D. M. (1999). Extending the technology acceptance model with task-technology fit construct. *Information and Management*, 36.
- Donahue, M. J. (1985). Intrinsic and extrinsic religiousness: Review and meta-analysis. *Journal of Personality and Social Psychology*, 48(2): 400–419. doi: 10.1037/0022-3514.48.2.400
- Donthu, N. & Cherian, J. (1994). Impact of strength of ethnic identification on Hispanic shopping behavior. *Journal of Retailing*, 70(4): 383–393.
- Draft, R. L. & Lengel, R.H. (1986). Organizational information requirements, media richness structure design. *Management Science*, 32 (5): 554–571.
- Duedahl, M., Andersen, J., & Sein, M. K. (2005). *When models cross the border: adapting IT competencies of business managers*. Paper presented at the The 2005 ACM SIGMIS CPR conference on Computer personnel research, Atlanta, Georgia, USA.
- Dwivedi, Y. K., Rana, N. P., Chen, H., & Williams, M. D. (2011). A Meta-analysis of the Unified Theory of Acceptance and Use of Technology (UTAUT). In *Governance and Sustainability in Information Systems. Managing the Transfer and Diffusion of IT* (pp. 155-170). Springer Berlin Heidelberg.
- Dwyer, S. M. H. & Hsu, M. (2005). An exploratory examination of influence of national culture on cross-national product diffusion. *Journal of International Marketing*, 13(2): 1–27.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX:Harcourt Brace Jovanovich.
- Easterby-Smith, M., Thorpe, R. & Lowe, A. (2002). *Management Research*. 2nd edition. London: Sage.
- Easton, G., (1998). Case research as a methodology for industrial networks:a realist apologia. In: Naudé, P., Turnbull, P. (Eds.), *Network Dynamics in International Marketing*. Pergamon, Oxford: 73–87.

- Economist. (2009). Britain: pious, loyal and unhappy: Britain's Muslims. *The Economist*, 391(8630): 59.
- Eggert, A. (2007). Getting your PLS research published: A personal and interpersonalperspective. In: Proceedings of the academy of marketing science 2007 world marketing congress, July 11–14, Verona, Italy.
- El-Gamal, M. A. (2002). An economic explication of the prohibition of gharar in classical Islamic jurisprudence. *Islamic Economic Studies*, 8(2), 29-58.
- ElEid, M. I. (2011). Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia. *Journal of Electronic Commerce Research*, 12(1): 78-93.
- Elkin, N. & Hallerman, D. (2003), *Electronic Payments: From Online Bill Payment to Credit Cards*, E-Marketer, 2003.
- El Said, G. (2005). *Cultural effect on electronic consumer behaviour: The effect of uncertainty on online trust for Egyptian Internet users*. Unpublished PhD, London: Brunel University.
- Ellen, P. S., Bearden, W. O., & Sharma, S. (1991). Resistance to technological innovations: an examination of the role of self-efficacy and performance satisfaction. *Journal of the Academy of Marketing Science*, 19(4), 297-307.
- Ellison, C. G. (1992). Are religious people nice people? Evidence from the national survey of Black Americans. *Social Forces*, 71(2): 411–430.
- Ellison, C. G., & Levin, J. S. (1998). The religion-health connection: Evidence, theory, and future directions. *Health Education & Behavior*, 25(6), 700-720.
- Emory. C. and Cooper, D. (1991). *Business Research Method*. Fourth ed. United states of America: Irwin.
- Engel, J. F. (1976). Psychographic Research in a Cross Cultural Non-product Setting, in NA - Advances in Consumer Research Volume 03, eds. Beverlee B. Anderson, Cincinnati, OH : Association for Consumer Research, Pages: 98-101
- Eriksson, K. & Nilsson, D. (2007). Determinants of the continued use of self-service technology: The case of Internet banking. *Technovation*, 27: 159–167.
- Erlandson, D., Harris, E., Skipper, B. & Allen, S. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.
- Erol, C. & El-Boudr, R. (1989). Attitudes, behaviour and patronage factors of bank customers towards Islamic banks. *International Journal of Bank Marketing*, 7(6): 31–37.
- Essoo, N. & Dibb, S. (2004). Religious influences on shopping behavior: An exploratory study. *Journal of Marketing Management*, 20: 683-712.
- Eveland, J. D. & Tornatzky, L. 1990. The Development of Technology. In Tornatzky & Fleischer. (Eds.), *The Processes of Technological Innovation*, (Chapter 6). Lexington, MA: Lexington Books.
- Faul, F., Erdfelder, Buchner, E. A. & Lang, A-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods* 41:1149–1160.
- Fam, K. S., Waller, D. S. & Erdogan, B. Z. (2004). The influence of religion on attitudes towards the advertising of controversial products. *European Journal of Marketing*, 38(5/6): 537–555.

- Feather, N. T. (1982). Expectancy-value approaches: Present status and future directions. In: N.T. Feather (Ed.), *Expectations and actions: Expectancy-value models in psychology*. Hillsdale, NJ: Erlbaum.
- Feather, N. T. (1975). *Values in education and society*. New York: Free Press.
- Featherman, M. S., & Pavlou, P. A.. (2003). Predicting e-services adoption: A perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59: 451–474.
- Ferraro, G. P. (1994). *The cultural dimension of international business*. New Jersey: Prentice-Hall.
- Fichman, R. G. (1992). Information technology diffusion: a review of empirical research. In *ICIS* (pp. 195-206).
- Fichman, R. G. & Kemerer, C.F. (1999). The illusory of innovation: An examination of the assimilation gaps. *Information Systems Research*, 10(3): 255–275.
- Finextra. (2007a). Internet banking overtakes telephone in UK. Retrieved: 05-01-2008 from www.Finextra.fullstory.com?id=16331
- Finextra. (2007b). Web banking soaring all other retail channels-TowerGroup. Retrieved: 16-05-2008) from www.finextra.com/fullstory.asp?id=16932
- Finextra. (2006a). One of five bank branches closed. Retrieved: 09-10-2009 from www.finextra.com/fullstoey.asp?id=14960
- Finextra.(2006b). Security fears scare off US customers from online banking, shopping. Retrieved: 27 11 2008 from www.Finextra.com/fullstory.asp?id=16204
- Fink, A. (1995). *The Survey Handbook*. In:Lisa M. Given (Ed.), *The SAGE Encyclopedia of Qualitative Research Methods*. 2008. London:SAGE Publications, Inc.
- Fishbein, M. & Ajzen, I. (1975a). *Belief, attitude, intention and behaviour: An introduction or theory and research*. Wesley I MA: Addison.
- Fishbein, M. & Ajzen, I. (1975b). *Intention and behaviour: An introduction to theory and research*. Reading, MA: Addison Wesley.
- Fitzgerald, K. (2004). An investigation into people’s perceptions of online banking. Retrieved: 7 March 2010, from <http://staffweb.itsligo.ie/staff/eward/ebus%200203/Discussion%20topics/Online%20Banking.ht>,
- Floh, A., & Treiblmaier, H. (2006). What keeps the e-banking customer loyal? A multigroup analysis of the moderating role of consumer characteristics on e-loyalty in the financial service industry. *Journal of Electronic Commerce Research*, 7(2), 97-110.
- Flick, Uwe (2002). An introduction to qualitative research. (2nd ed.) London: Sage.
- Foddy, W. (1993). *Constructing questions for interviews and questionnaires: Theory and practice in social research*. Cambridge: Cambridge University Press..
- Fontana, A. & Frey, J.H. (1994). Interviewing: The art of science. In: N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research*. (pp.361–376). Thousand Oaks, CA: Sage.
- Foon, Y. & Chan Yin Fah, B. (2011). Internet banking adoption in Kuala Lumpur: An application of UTAUT Model. *International Journal of Business and Management*, 6(4).

- Fornell, C., Lorange, P. & Roos, J. (1990). The cooperative venture formation process: A latent variable structural modeling approach. *Management Science*, 36(10): 1246–1255.
- Fornell, C. & Robinson, W. T. (1983). Industrial concentration and consumer satisfaction/ dissatisfaction. *Journal of Consumer Research* 9: 403–412.
- Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 19: 440– 452.
- Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1): 39–50.
- Frankfort-Nachmias, C. & Nachmias, D. (1996). *Research Methods in the Social Sciences* New York: St. Martin's Press.
- Free dictionary, The. (2011). Religious leader. from <http://www.thefreedictionary.com/religious+leader>
- Freed, L. (2005). Online banking: Customer satisfaction and its implications for building loyalty and influencing buying behavior. *Forbes.com / Foresee Results results commentary*, Retrieved: 03-09-2009. from www.foreseeresults.com
- Freese, J. (2004). Risk preferences and gender differences in religiousness: Evidence from the world vValues survey. *Review of Religious Research*, 46 (1): 88–91.
- Furst, K., Lang, W. & Nolle, D. (2000). Special studies on technology and banking: Who offers Internet banking? *Quarterly Journal*, 19(2): 29–48.
- Furnham, A. (1984). Personality and values. *Personality and individual differences*, 5(4): 483-485.
- Gable, G. (1994). Integrating case study and survey research method: An example in information systems. *European Journal of Information Systems*, 3(2): 112–126.
- Gait, A. H. & Worthington, A. C. (2008). An empirical survey of individual consumer, business firm and financial institution attitudes towards Islamic methods of finance. *International Journal of Social Economics*, 35(11): 783 – 808.
- Gatignon, H. & Robertson, TS. (1991). Innovative decision processes. In TS Robertson & HH Kassarian (eds). *Handbook of consumer behavior*. Prentice Hall, Englewood Cliffs, New Jersey, pp. 316-48.
- Gay, L. R. (1996). *Educational research: Competence for analysis and application*. Upper Saddle River, NJ: Prentice-Hall.
- Gay, L. & Diehl, P. (1992). *Research Methods for business and management* New York, NY: Macmillan Publishing Company.
- Geertz, C. (1993). *The Interpretation of cultures: Selected essays*. London: Fontana
- Gefen, D. & Detmar, S. (2005). A Practical guide to factorial validity using PLS-graph: Tutorial and annotated example. *Communications of the Association for Information Systems*, 16 (Article 5), Available at: <http://aisel.aisnet.org/cais/vol16/iss1/5>.
- Gefen, D., Karahanna, E. & Straub, D.W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1): 51–90.

- Gefen, D., & Straub, D. W. (2000). The relative importance of perceived ease of use in IS adoption: a study of e-commerce adoption. *Journal of the Association for Information Systems*, 1(1): 8.
- Gefen, D., Straub, D. & Boudreau, M. (2000). Structural equation modelling and regression: Guidelines for research practice. *Communication Association of Information Systems*, 4(7): 1–79.
- Gefen, D. & Keil, M. (1998). The impact of developer responsiveness on perceptions of usefulness and ease of use: An extension of the technology acceptance model. *The DATA BASE for Advances in Information Systems* 29(2): 35–49.
- Gefen, D., & Straub, D. W. (1997). Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. *MIS Quarterly*, 21(4): 389–400.
- Genia, V. (1993). A psychometric evaluation of the Allport-Ross I/E Scales in a religiously heterogeneous sample. *Journal for the Scientific Study of Religion*, 32(3): 284–290.
- Gentry, L. & Calantone, R. (2002). A comparison of three models to explain shop-bot use on the web. *Psychol. Mark.*, 19: 945–956. doi: 10.1002/mar.10045
- Gentry, J. W., Jun, S., & Tansuhaj, P. (1995). Consumer acculturation processes and cultural conflict: how generalizable is a North American model for marketing globally?. *Journal of Business Research*, 32(2), 129-139.
- Gentry, J. W., Tansuhaj, P., Manzer, L. L., & John, J. (1988). Do geographic subcultures vary culturally?. *Advances in Consumer Research*, 15(1), 411-417.
- Gerrard, P., Cunningham, J. B. & Devlin, J. F. (2006). Why consumers are not using Internet banking: A qualitative study. *Journal of Services Marketing*, 20(3): 160–168.
- Gerrard, P., & Cunningham, J. B. (2003). The diffusion of Internet banking among Singapore consumers. *International Journal of Bank Marketing*, 21(1), 16-28.
- Choudrie, J. and Lee, H.J. (2004). Broadband Development in South Korea: Institutional and Cultural factors. *EJIS* 13 (2), 103-114.
- Gibbs, J. P. (1982). Laws as a mean of social control. In: J.P.Gibbs (Ed.), *Social control: Views from the social sciences* (pp. 88–113). Beverly Hills: Sage Publications.
- Giddens, A. (1984). *The Constitution of Society: Outline of the theory of structure*. University California Press.
- Giddings, L. S., & Grant, B. M. (2007). A Trojan Horse for positivism? A critique of mixed methods research. *Advances in Nursing Science*, 30(1): 52-60.
- Gilly, M. C. & Wolfinger, M. F. (1998). Advertising's internal audience, *Journal of Marketing*, 62(1): 69–88.
- Giunipero, L. & Flint, D. J. (2001). Purchasing practices in Saudi Arabia - An exploratory analysis. *International Journal of Physical Distribution & Logistics Management*, 31(9): 686–704.
- Given, L. & Saumure, K. (2008). Trustworthiness. In: L. Given (Ed.), *The SAGE encyclopedia of qualitative research methods*. (895–896). Thousand Oaks, CA: Sage Publications, Inc.
- Given, Lisa M. (2008). *The SAGE Encyclopedia of Qualitative Research Methods*. SAGE Publications, Inc.

- Gjelsvik, J. T. (2001). *Influence of Islamic culture on Scandinavian management in Malaysia – A glance at multinational management and Islamic values*. Master's Thesis, Institute of Classical Philology, Russian and the History of Religions, The University of Bergen, Norway.
- Glasgow Muslims (2010). Glasgow muslims putting unity into community. posted in 09-11-2010: <http://www.glasgowmuslims.com/>.
- Godfrey, P., & Hill, C. (1995). The problem of un-observables in strategic management research. *Strategic Management Journal*, 16: 519–533.
- Goldsmith, R. E. (2001). Using the domain specific innovativeness scale to identify innovative Internet consumers. *Internet Research*, 11(2): 149 – 158.
- Goldsmith, R. E., Freiden, J. B., & Eastman, J. K. (1995). The generality/specificity issue in consumer innovativeness research. *Technovation*, 15(10), 601-612.
- Goldsmith, R. E. & Hofacker, C. F. (1991). Measuring consumer innovativeness. *Journal of the Academy of Marketing Science*, 19(3): 209–221.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-method Evaluation Designs. *Educational Evaluation and Policy Analysis*, 11 (3): 255-274.
- Goodhue, D., Lewis, W., & Thompson, R. (2006, January). PLS, small sample size, and statistical power in MIS research. In *System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference on* (Vol. 8, pp. 202b-202b). IEEE.
- Gorrill, J. R. M. (2004). Saudi Arabia Fact file. *CIA The World Factbook*. Retrieved: 3 04 2011 from <http://www.communicaid.com/saudi-business-culture.asp>
- Gould, S.J. (1995). The Buddhist Perspective on Business Ethics: Experiential Exercises for Exploration and Practice. *Journal of Business Ethics* 14: 63–70.
- Gounaris, S & Koritos, C, (2008). Investigating the drivers of Internet banking adoption decision: A comparison of three alternative frameworks. *International Journal of Bank Marketing*, 26 (5): 282 – 304.
- Gounaris, S. P., & Koritos, C. D. (2008). Using the extended innovation attributes framework and consumer personal characteristics as predictors of Internet banking adoption. *Journal of Financial Services Marketing*, 13(1), 39-51.
- Grabner-Kräuter, S. & Faullant, R. (2008). Consumer acceptance of Internet banking: The influence of Internet trust. *International Journal of Bank Marketing*, 26(7): 483 – 504.
- Grabner-Krauter, S. & Kaluscha, E A. (2003). Empirical research in on-line trust: A review and critical assessment. *International Journal of Human-Computer Studies*, 58: 783–812.
- Grabner-Kräuter, S., & Faullant, R. (2010). Internet Trust as a Specific Form of Technology Trust and its Influence on Online Banking Adoption. *International Journal of Dependable and Trustworthy Information Systems (IJDTIS)*, 1(4), 43-60.
- Green, D. H. & Ryans, A. B. (1990). Entry strategies and market performance: Causal modeling of a business simulation. *Journal of Product Innovation Management*, 7(1): 45–58.

- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-method Evaluation Designs. *Educational Evaluation and Policy Analysis*, 11 (3): 255-274.
- Grewal, B. et al. (2004). Management of Public Expenditure: International Experience. Report prepared for the Ministry of Finance. People's Republic of China, May.
- Guba, G. & Lincoln, S. (1994). Competing paradigms in qualitative research. In: N. Denzin and Y. Lincoln (Eds.), *Hand Book of Qualitative Research* (pp. 105–117): Sage Publications, Thousand Oaks, CA.
- Guerrero, M. M., Egea, J.M.O. & González, M.V.R. (2007). Application of the latent class regression methodology to the analysis of Internet use for banking transactions in the European Union. *Journal of Business Research*, 60 (2): 137–45.
- Gultig, J., Lubisi, C., Parker, B. & Wedekind, V. (1999). *Understanding outcomes-based education: Teaching and assessment in South Africa*. Cape Town: Oxford University Press.
- Gumussoy, C. A., & Calisir, F. (2009). Understanding factors affecting e-reverse auction use: An integrative approach. *Computers in Human Behavior*, 25(4): 975-988.
- Gupta, U. (2000). *Information Systems: Success in the 21st century*. Upper Saddle River, NJ: Prentice-Hall.
- Gurau, C. (2002). Online Banking in transition economies: The implementation and development of online banking systems in Romania. *International Journal of Bank Marketing*, 20(6): 285–96. doi:10.1108/02652320210446742.
- Guriting, P., & Ndubisi, N. O. (2006). Borneo online banking: evaluating customer perceptions and behavioural intention. *Management research news*, 29(1/2): 6-15.
- Hair, Joseph F., G. Tomas M. Hult, Christian M. Ringle, & Marko Sarstedt. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks: Sage.
- Hair, J., Sarstedt, M., Ringle, C. & Mena, J. (2011). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3): 414–433.
- Hair, F., Black, C., Babini, J., Anderson, E. & Tathan, L. (2006). *Multivariate data analysis*. 6th ed. Upper Saddle River, New Jersey: Pearson / Prentice hall.
- Hair, J. F., Bush, R.P. & Ortinau, D.J. (2000). *Marketing Research: A partical approach for new millennium*. Singapore: McGraw-Hill.
- Hamid, A. S.. (2000). *Sahih Muslim, tradition no. 3658, translated into English*. India: Kitab Bhavan.
- Ha, Sejin., & Stoel, Leslie., (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research*, 62 (5): 565-571, ISSN 0148-2963, <http://dx.doi.org/10.1016/j.jbusres.2008.06.016>.
- Hammersley, M. (1992). *What's wrong with ethnography?: Methodological explorations*. Psychology Press.
- Hanzaee, H. K. & Ramezani, M. R. (2011). Intention To Halal Products In The World Markets. *Interdisciplinary Journal of Research in Business*, 1(5), May (1–7).
- Harré, R. (1986). *The Social Construction of Emotions*. Oxford: Basil Blackwell.

- Harrell, Gilbert D. & Peter D. Bennett (1974). An Evaluation of Expectancy Value Model of Attitude Measurement for Physician Prescribing Behavior. *Journal of Marketing Research* , 11 (August): 269-278.
- Harris, L. C. & Good, M.M.H. (2004). The four levels of loyalty and the pivotal role of trust: A study of online service dynamics. *Journal of Retailing*, 80:139–158.
- Hardgrave, B.C., Davis, F.D., & Riemenschneider, C.K. (2003). Investigating determinants of software developers' intentions to follow methodologies. *Journal of Management Information Systems*, 20 (1):123–151.
- Harrington, D. (2008). *Confirmatory factor analysis*: Oxford University Press, USA.
- Harrington, S. J., & Ruppel, C. P. (1999, January). Practical and value compatibility: their roles in the adoption, diffusion, and success of telecommuting. In *Proceedings of the 20th international conference on Information Systems* (pp. 103-112). Association for Information Systems.
- Harrison, A. W., Rainer, R.K., Hochwater, W.A. & Thompson, K.R. (1997). Testing the self-efficacy-performance linkage of social-cognitive theory. *The Journal of Social Psychology*, 137(1): 79–87.
- Hall, R. (2013). Conducting research in a changing and challenging world. Chapter 7: Mixed methods: In: Search of a Paradigm, pp. 71–78, Lê T and Lê Q (Eds.), New York: Nova Science Publishers Inc.
- Hasan, H. & Ditsa, G. (1999). The impact of culture on the adoption of IT: An interpretive study. *Journal of Global Information Management (JGIM)*, 7(1), 5–15. doi:10.4018/jgim.1999010101.
- Hashim, N. M., & Mizerski, D. (2010). Exploring Muslim consumers' information sources for IT 'fatwa' IT rulings on products and behaviors. *Journal of Islamic Marketing*, 1(1), 37-50.
- Hausenblas, H. A., Carron, A.V. & Mack, D.E. (1997). Application of the theories of reasoned action and planned behaviour to exercise behaviour: A meta-analysis. *Journal of Sport and Exercise Psychology*, 19: 36–51.
- Hawkins, D., Best, R. & Coney, K. (2001), “Consumer Behaviour: Building Marketing Strategy”, New York Irwin: McGraw-Hill.
- Hay, C. (2002). *Political analysis: A critical introduction*. Basingstoke: Palgrave.
- Healy, M., & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative market research: An international journal*, 3(3): 118-126.
- Hebert, J. R., Ma, Y., Clemow, L., Ockene, I. S., Saperia, G., Stanek, E. J., ... & Ockene, J. K. (1997). Gender differences in social desirability and social approval bias in dietary self-report. *American Journal of Epidemiology*, 146(12): 1046-1055.
- Heijden, H. V. (2003). Factors influencing the usage of websites: The case of a generic portal in the Netherlands. *Information and management*, 40: 541–549.
- Heilman, G. E. & Brusa, J. O. (2008). *Chapter IV: Validating the end-user computing satisfaction survey instrument in Mexico* (1531–1541). Hershey, PA: Information Science Reference.
- Henderson, R. & Divett, J. (2003). Perceived usefulness, ease of use and electronic supermarket use. *International Journal of Human-Computer Studies*, 59: 383–395.

- Henriksen, H. Z. (2002). *Performance Pressures and Politics: Motivator for adoption of interorganizational information systems*. Unpublished PhD thesis, Center for Electronic Commerce, Department of Informatics, Copenhagen Business School.
- Hendrickson, A. R., Massey, P. D. & Cronan, T. P. (1993). On the test-retest reliability of perceived usefulness and perceived ease of use scales. *MIS Quarterly*, 17(2): 227–230.
- Hendrickson, A. R., & Collins, M. R. (1996). An assessment of structure and causation of IS usage. *ACM SIGMIS Database*, 27(2), 61-67.
- Henrichs, R. B. (1995). *Factors that impact consumer adoption of innovative technological services over time: The case of Internet*. San Francisco, CA: Golden Gate University.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling*, 17(1): 82-109.
- Henseler, J. & Fassott, G. (2009). Testing moderating effects in PLS path models: An illustration of available procedures. In: V. Esposito Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods, and applications*. Berlin: Springer.
- Hernandez, J. M. C., & Mazzon, J. A. (2007). Adoption of Internet banking: proposition and implementation of an integrated methodology approach. *International Journal of Bank Marketing*, 25(2), 72-88.
- Hiltunen, M., Heng, L., & Helgesen, L. (2004). Personalized Electronic Banking Services. In C.- M. Karat, J. Blom & J. Karat (Eds.), *Designing Personalized User Experiences in eCommerce* (Vol. 5, pp. 119-140). Netherlands: Kluwer Academic Publishers.
- Hilary, G. & Hui, K.W. (2009). Does religion matter in corporate decision making in America? *Journal of Financial Economics*, 93(3, September): 455–473.
- Hill, E., Loch, D., Straub, W. & El Sheshai, K. (1998). A qualitative assessment of Arabic culture and information technology transfer. *Journal of Global Information Management*, 6(3): 29–38.
- Hill, P. C., & Hood Jr, R. W. (1999). Affect, religion, and unconscious processes. *Journal of Personality*, 67(6), 1015-1046.
- Hirschheim, R. (1992). Information systems epistemology: A historical perspective. In: R.D. Galliers (Ed.), *Information system research: issues, methods and practical guidelines*: Black Scientific Publications.
- Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *The Journal of Marketing*, 92-101.
- Hirschman, E. C. (1980). Innovativeness, novelty seeking, and consumer creativity. *Journal of Consumer Research*, 7(December): 283–295.
- Hirschman, E. C. (1981). American-Jewish ethnicity: Its relationship to some selected aspects of consumer behavior. *Journal of Marketing* 45: 102–110.
- Hirschman, E. C. (1982a). Ethnic variation in leisure activities and motives. Paper presented at the *An Assessment of Marketing Thought and Practice: 1982 Educators' Conference Proceedings*, Chicago.

- Hirschman, E. C. (1982b). Religious differences in cognitions regarding novelty seeking and information transfer. *Association for Consumer Research*: 228–233.
- Hirschman, E. C. (1985). Ethnicity as a predictor of media content preferences. Paper presented at *Marketing Communications: Theory and Research: Proceedings of the AMA Educators' Winter Conference*, Chicago, IL: American.
- Hirschman, E. C. (Ed.). (1981). *American Jewish ethnicity: Its relationship to some selected aspects of consumer behavior*, *Journal of Marketing* 45 (Summer): 102–110. Greenwich, CT JAI Press
- Hirunyawipada, T., & Paswan, A. K. (2006). Consumer innovativeness and perceived risk: Implications for high technology product adoption. *Journal of Consumer Marketing*, 23(4): 182–198.
- Hitchcock, C. (2011). *In-depth interviews (Part Two of Four) - Advantages of in-depth interviews versus focus groups*. Retrieved: 20/12/2011 from <http://www.godfrey.com/How-We-Think/B2B-Insights-Blog/Research/In-depth-interviewing-Part-2.aspx>
- Hitt, L. M. & Frei, F.X. (2002). Do better customers utilize electronic distribution channels?: The case of PC banking. *Management Science*, 48(6): 732–748.
- Hoffman, L. & Novak, P. (1996). Donna and Thomas marketing in hypermedia computer mediated environment: Conceptual foundations. *Journal of Marketing*, 60: 50–68.
- Hoffmann, A. O. I., Franken, H. & Broekhuizen, T. L. J. (2012). Customer intention to adopt a fee-based advisory model: An empirical study in retail banking. *International Journal of Bank Marketing*, 30(2): 102 – 127.
- Hoffmann, S., & Soye, K. (2010). A cognitive model to predict domain-specific consumer innovativeness. *Journal of Business Research*, 63(7): 778-785.
- Hoffman, D. L., T. P. & Novak, M. Peralta. (1999). Building consumer trust online. *Comm. ACM* 42 (4): 80–85.
- Hofstede, G. (1980). *Cultural Consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publication.
- Hofstede, G. (1991). *Culture and Organizations: Software of the mind: International cooperation and its important for survival*. New York: McGraw Hill.
- Hofst, N. (1996). Developing a cultural model. In: E. Del Galdo and J.Nielsen (Eds.), *International User Interface*. (pp. 41–73.): John Wiley and Sons, Inc.
- Holmes-Smith, P. (2001). Introduction to structural equation modeling using LISREL. *Perth: ACSPRI-Winter training Program*.
- Holmes-Smith, P., Coote, L., Cunningham, E., 2004. *Structural Equation Modeling: From the Fundamentals to Advanced Topics*, ACSPRI-Summer Training Program, Canberra, Australia.
- Holliday, A. (2002). *Doing and Writing Qualitative Research*. London: Sage.
- Holstein, J. A. & Gubrium, J.F. (1995). *The active interview*. Thousand Oaks, CA: Sage Publications.
- Homer, P. M. & Kahle, L. R. (1988). A structural equation test of the value-attitude-behavior hierarchy. *Journal of Personality and Social Psychology*, 54(4): 638–646.

- Honold, P. (1999). Cross-cultural or intercultural: Some findings on international usability testing. In: p. G. a. D. G. E (Eds.), *Designing for Global Market 1: IWIPS 1999 Preceeding. The First Internationalization of Products and Systems* (pp. 107–112). Rochester, New York: 20–22 May 1999: Backhous Press. (editors' names need clarification)
- Horton, R. P., Buck, T., Waterson, P.E. & Clegg, C.W. (2001). Explaining Intranet use with the technology acceptance model. *Journal of InformationTechnology*, 16(4): 237–250.
- Horan, T., Tulu, B., Hilton, B., & Burton, J. (2004). Use of Online Systems in Clinical Medical Assessments: An Analysis of Physician Acceptance of Online Disability Evaluation Systems. 37th Annual Hawaii International Conference on System Sciences.
- Howcroft, B. & Durkin, M, (2000). Reflections on bank-customer interactions in the new millennium. *Journal of Financial Services Marketing* 5(1): 9–20.
- Howcroft, B., Hamilton, R. & Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. *The International Journal of Bank Marketing*, 20(3): 111–121.
- Hoyer, T. & MacInnis, D. (1997). *Consumer Behaviour*. Boston, MA: Houghton Mifflin.
- Hudson, L. A. & Ozanne, J. L. (1988). Alternative ways of seekingknowledge in consumer research. *Journal of Consumer Research* 14(March): 508–521.
- Hulland, J. S. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies *Strategic Management Journal*, 20(4): 195–20.
- Hussey, J. & Hussey, R. (1997). *Business research: A practical guide for undergraduate and postgraduate students*. Basingstoke, UK: Palgrave Publisher.
- Huang, W., Nakamori, Y., & Wang, S. Y. (2005). Forecasting stock market movement direction with support vector machine. *Computers & Operations Research*, 32(10): 2513-2522.
- Hwang, Y. (2009). The impact of uncertainty avoidance, social norms and innovativeness on trust and ease of use in electronic customer relationship management. *Electronic Markets*, 19(2): 89–98.
- Ilarossi, G. (2006). *The power of survey design: A user's guide for managing surveys, interpreting results, and influencing respondents*. Washington, D.C.: The World Bank.
- Ibn Katheer. A. O. (2011). Quran Interpretation Retrieved: 1/1/2011, from http://www.qurancomplex.org/Quran/tafseer/Tafseer.asp?l=arb&t=katheer&nSor a=1&nAya=1#1_1
- Igbaria, M., Parasuraman, S. & Baroudi, J. J. (1996). A motivational model of microcomputer usage. *J. Manage. Inf. Syst.*, 13(1): 127–143.
- Igbaria, M., Guimaraes, T. & Davis, G. B. (1995). Testing the determinants of microcomputer usage via a structural equation model. *J. Manage. Inf. Syst.*, 11(4): 87–114.

- Igbaria, M., & Wormley, W. M. (1992). Organizational experiences and career success of MIS professionals and managers: an examination of race differences. *MIS Quarterly*, 507-529.
- Igbaria, M. & Chakrabarti, A. (1990). Computer anxiety and attitudes towards microcomputer use. *Behaviour and Information Technology*, 9: 229 –241.
- Im, S., Mason, C.H. & Houston, M.B. (2007). Does innate consumer innovativeness relate to new product/service adoption behavior?: The intervening role of social learning via vicarious innovativeness. *Journal of the Academy of Marketing Science*, 35(1): 63–75.
- Investopedia.(2011). Murabahah. Retrieved: 12/02/2011, from <http://simulator.investopedia.com/#axzz1xgUmOTRz>
- Internet World Stats (2012). Copyright 2001-2014. Miniwatts Marketing Group. Retrieved in 19-11-2013 from: <http://www.internetworldstats.com/stats.htm>.
- Iqbal, Muzaffar. Chapter 1, "The Beginning", Islam and Science, Ashgate Press, 2002.
- Islamweb net. (2011). *Seeking knowledge in Islam*. Retrieved: 01-11-2011 from <http://audio.islamweb.net/audio/index.php?page=FullContent&audioid=28162>
- Jackson, C. M., Chow, S. & Leitch, R. A. (1997). Toward an understanding of the behavioral intention to use an information system. *Decision Sciences*, 28(2): 357–389.
- Jahangir, N. & Begum N. (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African Journal of Business Management*, 2(2): 032–040.
- Jahng, J. J. H. & Ramamurthy, K. (2007). Effects of interaction richness on consumer attitudes and behavioral intentions in e-commerce: Some experimental results. *Eur J Inf Syst.*, 16:254–69.
- Jamal, A. & Malik, R. (2010). Self-service technology options and service quality: The case of online banking services. *J. for Global Business Advancement 2010*, 3(4): 277– 284.
- Jane, M. K., Jeanne, M. H. & Marianne, A. H. (2004). The adoption of electronic banking technologies by US consumers. *The International Journal of Bank Marketing*, 22(4): 238–259.
- Janesick, V. (2000). The Choreography of Qualitative Research Design: Minuets, Improvisations, and Crystallization. In N.K. Denzin & Y. S. Lincoln (Eds.). *The Handbook of Qualitative Research* (pp. 379-400). Thousand Oaks, California, Sage Pub.
- Jarvenpaa, S. L., Tractinsky, N. & Vitale, M. (1999). Consumer trust in an Internet store: A cross-cultural Validation. *Journal of Computer-Mediated Communication* . Retrieved: 17 03 2009 from <http://jcmc.indiana.edu/vol5/jarvenpaa.html>
- Jarvenpaa, S. L., & D. E. Leidner. (1999). Communication and trust in global virtual teams. *Organ. Sci.*10 (6): 791–815.
- Jarvenpaa, S. L., Tractinsky, N. & Vitale, M. (2000). Consumers trust in an Internet Store. *Information Technology and Management*, 1(1–2): 45–71.
- Jasimuddin, S. (2012). *Saudi Arabia Banks on the Web*. Retrieved: 09-05-2009 from http://www.arraydev.com/commerce/jibc/0103_02.htm

- Jayawardhena, C. (2004). Personal values' influence on e-shopping attitude and behaviour. *Internet Research*, 14(2): 127 – 138.
- Jayawardhena, C. & Foley, P. (2000). Changes in the banking sector – the case of Internet banking in the UK. *Internet research: Electronic networking applications and policy*, 10(1): 19–30.
- J.D.Power & Associates. (2007). Convenient services and innovative practices are key differentiators. *Canadian retail banking customer satisfaction study*. Retrieved: 01-12-2010, from www.jdpower.com/corporate
- Jick, T. D. (1979). Mixed qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24: 602–611.
- Jöreskog, K. G. (1971). Statistical analysis of sets of congeneric tests. *Psychometrika*, 36: 109–133.
- Jöreskog, K. G. & Yang, F. (1996). Nonlinear structural equation models: The Kenny-Judd model with interaction effects. In G. Marcoulides & R. Schumacker (Eds.), *Advanced structural equation modeling* (pp. 57–87). Mahwah, NJ: Lawrence Erlbaum Associates.
- Jöreskog, K. G. (2001). *Structural Equation Modeling: Present and Future: a Festschrift in Honor of Karl Jöreskog*. R. Cudeck, D. Sörbom, & S. H. C. Du Toit (Eds.). Scientific Software International.
- Johansson, J. K. & Yip, G. S. (1994). Exploiting globalization potential: U.S. and Japanese strategies. *Strategic Management Journal*, 15(8): 579–601.
- Jong, Din & Wang, Tzong-Song., (2009). Student Acceptance of Web-based Learning System. Proceedings of the 2009 International Symposium on Web Information Systems and Applications (WISA'09), Nanchang, P.R. China, May22-24: 533-536.
- Jones, E., Sundaram, S., & Chin, W. (2002). Factors leading to sales force automation use: A longitudinal analysis. *Journal of Personal Selling & Sales Management*, 22(3): 145–156.
- Johnson, B. R., Jang, S. J., Larson, D. B. & De Li, S. (2001). Does adolescent religious commitment matter? A re-examination of the effects of religiosity on delinquency. *Journal of Research in Crime and Delinquency*, 38(1): 22–44.
- Johnson, R. B. & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7): 14– 26.
- Johnson, S., Aragon, S. & Shalk, N. (2000). Comparative analysis of learning satisfaction and learning outcomes inline and face to face learning environment. *Journal of Interactive Learning Research*, 11(1): 29–49.
- Joseph, B. & Vyas, S. J. (1984). Concurrent validity of a measure of innovative cognitive style. *Journal of the Academy of Marketing Science*, 12(2): 159–175.
- Joseph, M., McClure, C. & Joseph, B. (1999). Service quality in the banking sector: The impact of technology on service delivery. *International Journal of Bank Management*, 17(4): 54–71.
- Julien, P. A. & Ramangalahy, C. (2003). Competitive strategy and performance of exporting SMEs: An empirical investigation of the impact of their export information search and competencies. *Entrepreneurship Theory and Practice*, 27(3): 227–245.

- Jun, M. & Cai, S. (2001). The key determinants of Internet banking service quality: A content analysis. *International Journal of Bank Marketing*, 19(7): 276–291.
- Kahai, S. S., & Cooper, R. B. (2003). Exploring the core concepts of media richness theory: the impact of cue multiplicity and feedback immediacy on decision quality. *Journal of Management Information Systems*, 20 (1): 263–299
- Kahle, L., (1996). Social values and consumer behaviour: Research from the list of values . In C. Seligman, J Olson & M. Zanna (Eds). *The Ontario Symposium: The Psychology of Values*, Mahwah, NJ: Lawrence Erlbaum, 1996, pp. 135-151.
- Kahle, L. R., Sharon, E. B. & Homer, P. (1986). Alternative measurement approaches to consumer values: The list of values (LOV) and values and life style (VALS). *The Journal of Consumer Research*, 13(3): 405–409.
- Kahle, L. R. (1983). *Social Values and Social Change: adaptation to Life in America*. New York, NY: Praeger.
- Kahle, L. R. (1980). Stimulus condition self-selection band males in the interaction of locus of control and skill-chance situations. *Journal of Personality and Social Psychology*, 38(1): 50–56.
- Kale, S. H. (2004). Spirituality, religion, and globalization. *Journal of Macromarketing*, 24(2): 92–107
- Kalliny, M. & Hausman, A. (2007), The impact of cultural and religious values on consumer's adoption of innovation. *Academy of Marketing Studies* 11(1): 125–136.
- Kamakura, W. A. & Novak, T. P. (1992). Value-system segmentation: Exploring the meaning of LOV. *The Journal of Consumer Research*, 19(1): 119–132.
- Kamarulzaman, Y. (2007). Adoption of travel e-shopping in UK. *International Journal of Retail and Distribution Management*, 35(9): 703–719.
- Kandampully, J. (1998). Service quality to service loyalty: A relationship which goes beyond customer services. *Total Quality Management*, 9(6): 431–443.
- Kaplan, B., Szybillo, J. & Jacoby, J. (1974). Components of perceived risk in product purchase: A cross validation. *Journal of Applied Psychology*, 59(3): 278–291.
- Karahanna, E., Evaristo, J. R. & Srite, M. (2005). Levels of culture and individual behavior: An integrative perspective. *Journal of Global Information Management*, 13(2): 1–20.
- Karahanna, E., Straub, D. W., & Chervany, N. L. (1999). Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS quarterly*, 183-213.
- Karahanna, E., Straub, D.W. & Chervany, N.L. (1999). Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly*, 23(2): 183–213.
- Karijn Bonne, K., Vermeir, I., Blackler, F. B. & Verbeke, W. (2007). Determinants of halal meat consumption in France. *British Food Journal*, 109: 367 – 386.
- Karjaluoto, H. (2002). *Electronic banking in Finland: Consumers beliefs, attitudes, intentions and behaviours*. Unpublished PhD thesis, University of Jyväskylä.
- Karjaluoto, H., Mattila, M& Pentto, T. (2002). Factors underlying attitude formation towards online banking in Finland. *International Journal of Bank Marketing*, 20(6): 261–272.

- Katz, Y. J. & Francis, L. J. (1995). Personality, religiosity and computer oriented attitudes among trainee teachers in Israel. *Computers in Human Behavior*, 11(1): 1–8.
- Katz, E., Levin, M. L., & Hamilton, H. (1963). Traditions of research on the diffusion of innovation. *American Sociological Review*: 237-252.
- Kavoossi, M. (2000). *The Globalization of Business and the Middle East: Opportunities and Constraints*. Westport: CT: Quorum Books.
- Keil, M., Tan, B. C., Wei, K. K., Saarinen, T., Tuunainen, V. & Wassenaar, A. (2000). A cross-cultural study on escalation of commitment behavior in software projects. *Management Information Systems Quarterly*, 24(2): 299–325.
- Keng, A. & Yang, C. (1993). Value choice, demographics, and life satisfaction. *Psychology and Marketing* 10: 413–432.
- Kennedy, E. J. & Lawton, L. (1998). Religiousness and business ethics, *Journal of Business Ethics* 17: 163–175.
- Keeney, Bradford (1983). *Aesthetics of Change*, The Guilford Press, New York.
- Kerlinger Fred N (1986). *Foundations of Behaviour Research* 3rd Edition. New York. Holt, Rinehart & Winston.
- Khan, A. & Woosley, J. (2011). Comparison of contemporary technology acceptance models and evaluation of the best fit for health industry organizations. *IJCSET*, 1(11):709–717.
- Khalil, M. N. & Pearson, J.M. (2007). The influence of trust on Internet banking acceptance. *Journal of Internet Banking and Commerce*, 12 (2).
- Khraim, H. (2010). Measuring religiosity in consumer research from an Islamic perspective. *Journal of Economic and Administrative Sciences*, 26(1): 52 – 57.
- Khraim, H. S., Mohamad, O. & Jantan, M. (1999, July 16–17). Measuring religiosity in consumer research. Paper presented at the *Proceedings of the Third Asian Academy of Management Conference*, Kuala Terengganu, Malaysia.
- Khoubati, K., Dwivedi, Y.K., Lal, B. & Chen, H. (2007). Broadband adoption in Pakistan, *Electronic Government an. International Journal*, 4 (4).
- King, N. (1994), The qualitative research interview. In: C. Cassell and G. Symon (Eds.), *Qualitative methods in organizational research: A practical guide*, pp.14–36. London: Sage.
- Kluser, R. & Cheong, P. H. (2007). Technological modernization, the Internet, and religion in Singapore. *Journal of Computer-Mediated Communication*, Retrieved: 09-06-2009. from <http://jcmc.indiana.edu/vol12/issue3/kluser.html>
- Knutsen, O. R. (2004). Religious denomination and party choice in Western Europe: A comparative longitudinal study from eight countries, 1970–97. *International Political Science Review / Revue internationale de science politique*, 25(1): 97–128.
- Koenig-Lewis, N., Palmer, A. & Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International Journal of Bank Marketing*, 28(5): 410–32.
- Kolodinsky, J. M., Hogarth, J. M., & Hilgert, M. A. (2004). The adoption of electronic banking technologies by US consumers. *International Journal of Bank Marketing*, 22 (4): 238-259.

- Korzaan, Melinda. (2003). Going with the Flow: Predicting Online Purchase Intentions. *The Journal of Computer Information Systems*, 43/4: 25-31.
- Krathwohl, D. R. (1993). *Methods of educational and social science research: An integrated approach*. Longman/Addison Wesley Longman.
- Krauss, S.H. A. (2010). The Muslim religiosity-personality inventory (MRPI) scoring manual, University of Putra Malaysia, unpublished work.
- Krauss, S. H. A., Suandi, T., Noah, S., Juhari, R., Manap, J., Mastor, K., Kassin, H. & Mahmood, A. (2006). Exploring regional differences in religiosity among Muslim youth in Malaysia. *Review of Religious Research*, 47(3): 238–252
- Krauss, S. H. A. & Idris, F (2007). Adaptation of a Muslim religiosity scale for use with four different faith communities in Malaysia *Review of Religious Research*, 49(2): 147–164.
- Krober, L. & Parsons, T. (1958). The concept of culture and social system. *American Sociological Review*, 23(23): 582–583.
- Kroeber, A. L. & Kluckhohn, C. (1952). *Culture: A critical review of concepts and definitions*. New York: Vintage Books.
- Krugman, H. E. (1965). The impact of television advertising: Learning without involvement. *Public Opinion Quarterly*, 29: 349–356.
- Kuhn, T. S. (1970). *The structure of scientific revolutions*. 2nd ed., Chicago: University of Chicago Press.
- Kuisma, T., Laukkanen, T., & Hiltunen, M. (2007). Mapping the reasons for resistance to Internet banking: A means-end approach. *International Journal of Information Management*, 27(2), 75-85.
- Kwak, Y. H., & LaPlace, K. S. (2005). Examining risk tolerance in project-driven organization. *Technovation*, 25(6), 691-695.
- La, K. V. & Kandampully, J. (2002). Electronic retailing and distribution of services: Cyber intermediaries that serve customers and service providers. *Managing Service Quality*, 12(2): 100–116.
- LaBarbera, Priscilla & Zeynep Gurhan (1997). The Role of Materialism, Religiosity, and Demographics in Subjective Well-Being. *Psychology and Marketing*, 14 (January), 71-97.
- Laforet, S. & Li, X. (2005). Consumers' attitudes towards online and mobile banking in China. *International Journal of Bank Marketing*, 23(5): 362–380.
- Lai, V.S., Chau, P.Y.K. & Cui, X. (2010). Examining Internet banking acceptance: A comparison of alternative technology adoption models. *International Journal of Electronic Business*, 8 (1): 51-79.
- Lai, D. C. F., Lai, I. K. W., & Ernest, J. (2010). A model for the study of user adoption behaviours of mobile commerce. *International Journal of Enterprise Network Management*, 4(1): 16 – 25.
- Laio, Z. & Cheung, M. T. (2002). Internet-based e-banking and consumer attitude: An empirical study. *Information and Management* 39(4): 283–295.
- Landauer, T.K. (1996). *The trouble with computers: Usefulness, usability, and productivity*. Cambridge, MA: MIT Press.

- Lassar, W. M., Manolis, C. & Lassar, S. (2005). The relationship between consumer innovativeness, personal characteristics, and online banking adoption. *The International Journal of Bank Marketing*, 23(2): 176–199.
- Laukkanen, T., Sinkkonen, S., Kivijärvi, M. & Laukkanen, P. (2007, July). How personal values determine consumers resistance to mobile banking?. Paper presented at the *The International Conference on Business and Information*, Tokyo, Japan.
- Lawrence, B. B. (1998). *Shattering the myth: Islam beyond violence*. Princeton, NJ: Princeton University Press.
- Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: past, present, and future. *Communications of the Association for Information Systems*, 12(1): 50.
- Lee, G.-G. & Lin, H.-F. (2005). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management*, 33(2): 161–176.
- Lee, I., Choi, B., Kim, J. & Hong, S. (2007). Cultural-technology fit: Effect of cultural characteristics on the post-adoption beliefs of mobile Internet users. *International Journal of Electronic Commerce*, 11(4): 11–51.
- Lee, J. (2002). A key to marketing financial services: The right mix of products, services, channels and customers. *Journal of Service Marketing*, 16(3): 238–258.
- Lee, J. A., Soutar, G. N. & Louviere, J. (2007). Measuring values using best-worst scaling: The LOV example. *Psychology and Marketing*, 24(12):1043–1058.
- Lee, M.-C. (2008). Factors influencing the adoption of Internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3): 130–141.
- Lee, M.K.O, & Turban, E. (2002). A trust model for consumer Internet shopping. *International Journal of Electronic Commerce*, 6(1):75–91.
- Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: past, present, and future. *Communications of the Association for Information Systems*, 12(1), 50.
- Lee, Y., Hsieh, Y. & Hsu. (2011). Adding Innovation Diffusion Theory to Technology Acceptance Model: Supporting Employees' Intentions to use E-learning Systems. *Educational Technology & Society*, 14 (4): 124-137.
- Lee, H.-H. & Chang, E. (2011). Consumer Attitudes Toward Online Mass Customization: An Application of Extended Technology Acceptance Model. *Journal of Computer-Mediated Communication*, 16: 171–200. doi: 10.1111/j.1083-6101.2010.01530.x
- Lee, J. A., Soutar, G. N., & Louviere, J. (2007). Measuring values using best- worst scaling: The LOV example. *Psychology & Marketing*, 24(12): 1043-1058.
- Legris, P., Ingham, J., & Collette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & management*, 40(3), 191-204.
- Leidner, E. & Kayworth, T. (2006). A review of culture in information systems research: Toward a theory of information technology culture conflict. *MIS Quarterly*, 30(2): 357–399.

- Leininger, M. M. (1985). Ethnography and ethnonursing: Models and modes of qualitative data analysis. In: M. M. Leininger (Ed.), *Qualitative research methods in nursing*: 33–72. Orlando, FL: Grune & Stratton.
- Lenth, R. V. (2001). Some practical guidelines for effective sample-size determination. *The American Statistician*, 55(3): 187–193.
- Levin, J. S., & Chatters, L. M. (1998). Religion, Health, and Psychological Well-Being in Older Adults Findings from Three National Surveys. *Journal of Aging and Health*, 10(4), 504-531.
- Lewis, M. K. (2007). Islamic banking in theory and practice. *Monash Business Review*, 3(1 – April).
- Lewis, W., Agarwal, R., & Sambamurthy, V. (2003). Sources of influence on beliefs about information technology use: an empirical study of knowledge workers. *MIS quarterly*, 657-678.
- Li, J. P., & Kishore, R. (2006, April). How robust is the UTAUT instrument?: a multigroup invariance analysis in the context of acceptance and use of online community weblog systems. In *Proceedings of the 2006 ACM SIGMIS CPR conference on computer personnel research: Forty four years of computer personnel research: achievements, challenges & the future* (pp. 183-189). ACM.
- Liao, S., Shao, Y., Wang, H. & Chen, A. (1999). The adoption of virtual banking: An empirical study. *International Journal of Information Managment*, 19: 63–74.
- Lim, N. (2003). Consumers perceived risk: Sources versus consequences. *Electronic Commerce Research and Aplications*, (2): 216–228.
- Limayem, M., Khalifa, M. & Frini, A.(2000). What makes consumers buy from Internet?A longitudinal study of online shopping, *IEEE Transactions on Systems, Man andCybernetics – Part A: Systems and Humans*, 30 (4): 421 – 432.
- Lin, Hsiu-Fen, (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management* 31: 252–260.
- Lin, C.-H., Shih, H.-Y. & Sher, P. J. (2007). Integrating technology readiness into technology acceptance: The TRAM model. *Psychol. Mark.*, 24: 641–657. doi: 10.1002/mar.20177
- Lin, J. C. & Lu, H. (2000). Towards an understanding of the behavioral intention to use a web site. *International Journal of Information Management*, 20: 197–208.
- Lincoln, Y. & Guba, E. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage.
- Lindridge, A. (2005). Religiosity and the construction of a cultural-consumption identity. *The Journal of Consumer Marketing* 22(2/3): 152
- Littler, D. & Melanthiou, D. (2006). Consumer perception of risk and uncertainty and the implications for behaviour towards innovative retail services: The case of Internet banking. *Journal of Retailing and Consumer Services*, 13: 431–443.
- Lo, S. K., & Lie, T. (2008). Selection of communication technologies—A perspective based on information richness theory and trust. *Technovation*, 28(3), 146-153.
- Loch, K. D., Straub, D. W. & Kamel, S. (2003). Diffusing the Internet in the Arab world: the role of social norms and technological cultururation., *IEEE Transactions on Engineering Management*, 50(1): 45–63.

- Lockett, A., & Littler, D. (1997). The adoption of direct banking services. *Journal of Marketing Management*, 13(8), 791-811.
- Lovelock, C. H. and Weinberg, C. B. (1978). Public and nonprofits marketing comes of age. Graduate School of Business, Stanford University, 1978.
- Lowry G. (2002). Modeling user acceptance of building management systems. *Automation in Construction* 11(6): 695–706.
- Lu, H. P., & Gustafson, D. H. (1994). An empirical study of perceived usefulness and perceived ease of use on computerized support system use over time. *International Journal of Information Management*, 14(5): 317-329.
- Lu, J. L., Chou, H.Y. & Ling, P.C. (2009). Investigating passengers` intention to use technology-based self check-in services. Retrieved: 10/April/2009 from www.elsevier.com/locate/tre
- Lu, J., Yao, J. E. & Yu, C.-S. (2005). Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. *The Journal of Strategic Information Systems*, 14(3): 245–268.
- Lucas, H. C. & Spitler, V. K. (1999). Technology use and performance: A field study of broker workstations. *Decision Sciences*, 30(2), 291–311.
- Luqmani, M., Yavas, U. & Quaraeshi, Z. (1989). Advertising in Saudi Arabia: content and regulation. *International Marketing Review* 6: 59–72.
- Ma, Q., & Liu, L., (2004). The technology acceptance model: a meta- analysis of empirical findings. *Journal of Organizational and End User Computing* 16(1): 59–72.
- Maas, P. & Graf, A. (2008). Customer value analysis in financial services. *Journal of Financial Services Marketing*, 13(2): 107–20.
- Mack, N., Woodsong, C., MacQueen, K., Guest, G. & Namey, E. (2005). *Qualitative research methods: A data collector`s field guide*. Online. from http://www.fhi.org/en/RH/Pubs/booksReports/QRM_datacoll.htm
- Malhotra, N. K. & Birks, D. F. (2003). *Marketing research: An applied approach*. 2nd ed. European, Essex, England: Prentice Hall.
- Malhotra, Y., & Galletta, D. F. (1999, January). Extending the technology acceptance model to account for social influence: theoretical bases and empirical validation. In *Systems Sciences, 1999. HICSS-32. Proceedings of the 32nd Annual Hawaii International Conference on*.
- Mallenius, S. R. M. & Tuunainen, V.K. (2007). Factors affecting the adoption and use of mobile devices and services by elderly people – results from a pilot study. Paper presented at the *Proceeding of 6th Annual Global Mobility Roundtable, Los Angeles*.
- Mahdi, M. (2011). Trust and security of electronic banking services in Saudi commercial banks: Saudis versus Non Saudis opinions. *African Journal of Business Management*, 5 (14), 5524-5535
- Mansumittrchai, S. & Chiu, C. (2012). Adoption of Internet banking in UAE: Factors underlying adoption characteristics. *International Journal of Management and Marketing Research*, 5(1): 103–115.

- Marketsmonitor.com. (2011). Saudi Arabia Banking Sector Analysis. Retrieved: 21 09 2011 from <http://www.articlesbase.com/banking-articles/saudi-arabia-banking-sector-analysis-by-marketsmonitorcom-2064475.html>
- Marr, N. E. & Prendergast, G. P. (1991). Strategies for retailing technologies at maturity: A retail banking case study. *Journal of International Consumer Marketing*, 3(3): 99–125.
- Marr, Norman E. & Prendergast, Gerard P. (1993). Consumer Adoption of Self-service Technologies in Retail Banking: Is Expert Opinion Supported by Consumer Research?. *International Journal of Bank Marketing*, 11 (1): 3 – 10.
- Marshall, C. (1987). *Report to the Vanderbilt policy education committee*. Nashville, TN.: Vanderbilt University.
- Marshall, C. & Rossman, G. (2006). *Designing qualitative research*, Fourth edition. Thousand Oaks, California: Sage Publications.
- Marshall, G. (2005). The purpose, design and administration of a questionnaire for data collection. *Radiography*, 11(2): 131–136.
- Maslow, A. H. (1954). *Motivation and Personality*, New York: Harper.
- Martinez-Ruiz, A., & Aluja Banet, T. (2010). PLS path modeling with mode C computational experiments. In *Proceedings of the World Congress on Engineering* (Vol. 3).
- Mathieson, K. (1991). Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior. *Information Systems Research*, 2(3): 173–191.
- Mathieson, K., Peacock, E. & Chin, W. W. (2001). Extending the technology acceptance model: The influence of perceived user resources. In: *The DATA BASE for Advances in Information Systems*, 32(3): 6–112.
- Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of marketing*, 64(3), 50-64.
- Mattila, M., Karjaluoto, H., & Pentto, T. (2003). Internet banking adoption among mature customers: early majority or laggards?. *Journal of Services Marketing*, 17(5): 514-528.
- Maxcy, S. J. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple methods of inquiry and the end of the philosophy of formalism. In A.Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioural research* (pp. 51-89). Thousand Oaks, CA: Sage.
- Maxwell, J A. (1996). *Qualitative research design: An interactive approach*. London: Sage Publications.
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- McClelland, S. (1994). Training needs assessment data-gathering methods: Part 1, Survey questionnaires. *Journal of European Industrial Training*, 18: 22–26.
- McCort, D. J., & Malhotra, N. K. (1993). Culture and consumer behaviour: toward an understanding of cross-cultural consumer behaviour in international marketing. *Journal of International Consumer Marketing*, 6(2): 91-127.

- McCoy, S. (2003). Integrating national culture into individual IS adoption research: The need for individual level measures. *AMCIS Proceedings*: 124.
- McCoy, S., Galletta, D. F., & King, W. R. (2005). Integrating national culture into IS research: The need for current individual level measures. *Communications of the Association for Information Systems*, 15(1), 12.
- McDonald, P. (1995). 'Australian Families: Values and Behaviour' in R. Hartley (ed.) *Families and Cultural Diversity in Australia* Allen & Unwin, Sydney.
- McDaniel, S. & Burnett, J. (1990). Consumer religiosity and retail store evaluative criteria. *Journal of the Academy of Marketing Science*, 18(2): 101–112.
- McEvoy, P., & Richards, D. (2006). A critical realist rationale for using a combination of quantitative and qualitative methods. *Journal of Research in Nursing*, 11(1): 66-78.
- McFarland, D. J. & Hamilton, D. (2006). Adding contextual specificity to the technology acceptance model. *Computers in Human Behavior*, 22(3): 427–447.
- McKechnie, S., Winklhofer, H. & Ennew, C. (2006). Applying the technology acceptance model to the online retailing of financial services. *International Journal of Retail & Distribution Management*, 34(4/5): 388–410.
- McMillan, J. (1992). *Education Research: Fundamental for consumer*. New York: Harper Collins Publishers Inc.
- Meglino, B. M. & Korsgaard, M. A. (2004). Considering the rational self-interest as a disposition: Organizational implications of other orientation. *Journal of Applied Psychology*, 89: 946–959.
- MERAC., M. E. R. C. (1987). *Arabs as consumers*. Research report available from MERAC, P.O. Box 26018, Manama, Bahrain.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Merrill, F. E. (1969). *Society and Culture*. Englewood Cliffs: Prentice Hall, Inc.
- Metawa, S. A. & Al-Mossawi, M. (1998). Banking behaviour of Islamic bank customers: Perspectives and implications. *International Journal of Bank Marketing*, 16(7): 299–313.
- Metwally, M. M. (1997). Differences between the financial characteristics of interest-free banks and conventional banks. *European Business Review*, 97(2): 92–98.
- Metwally, M. (1996). Attitudes of Muslims towards Islamic banks in a dual-banking system. *American Journal of Islamic Finance* 6: 11–17.
- Meuter, M. L. & Mary, J. B. (1998). *Self-Service Technology: Extending frameworks and identifying issue for research*. Paper presented at the AMA Winter Educator, Chicago, IL.
- Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing among alternative service delivery modes: an investigation of customer trial of self-service technologies. *Journal of Marketing*, 69(2), 61-83.
- Meuter, M. L., Ostrom, A. L., Bitner, M. J. & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, 56: 899–906.

- Meuter, M. L. (1999). *Consumer adoption of innovative self-service technologies: A multi-method investigation*. Unpublished PhD thesis, Arizona State University, August.
- Michell, P. C. N. & Al-Mossawi, M. (1995). The mediating effect of religiosity on advertising effectiveness. *Journal of Marketing Communications*, 1(3): 151–162.
- Mickey, L. Y., Lee, J. & Cude, B. J. (2002). Intention To adopt online trading: Identifying the future online traders. *Association for Financial Counseling and Planning Education*. pp. 49–66.
- Middle east. (2011). Saudi Internet purchases. Retrieved: 12-02-2011 from <http://teletimesinternational.com/middleeast/2499/>.
- Miles, M. & Huberman, M. (1994). *Qualitative data analysis: An expanded sourcebook*. Second edition. Thousand Oaks, California: Sage Publications.
- Miles, M. B. (1979). Qualitative data as an attractive nuisance: The problem of analysis. *Administrative Science Quarterly*, 24(4), *Qualitative Methodology (Dec)*: 590–601.
- Miller, A. S., & Hoffmann, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion*, 63-75.
- Miller, A. (2000). Going to Hell in Asia: The relationship between risk and religion in a cross cultural setting. *Review of Religious Research*, 42(1): 5–18.
- Miller, A. S. & Hoffmann, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion*, 34(1): 63–75.
- Miller, D. E. & Kunce, J. T. (1973). Prediction and statistical overkill revisited. *Measurement and Evaluation in Guidance*, 6(3): 157–163.
- Miller, Edward .G. (1991). Asymptotic test statistics for coefficients of variation. *Communications in Statistics-Theory and Methods*, 20(10), 3351-3363.
- Milton, R. (1969a). Part I. Value systems in religion. *Review of Religious Research*, 11(1): 3–23.
- Milton, R. (1969b). Part II. Religious values and social compassion. *Review of Religious Research*, 11(1): 24–39.
- Millstein, S. G., Petersen, A. C., & Nightingale, E. O. (1993). *Promoting the health of adolescents: New directions for the twenty-first century*. Oxford University Press.
- Minichiello, V., Aroni, R., Timewell, E. & Alexander, L.(1990). *In-depth Interviewing: Researching People*. Melbourne: Longman Cheshire.
- Mingers, J. (2001). Combining IS Research Methods: Towards a Pluralist Methodology. *Information Systems Research* 12(3): 240-259.
- Minkler, L. & Cosgel, M. M. (2004). Religious identity and consumption. *Economics Working Papers. Paper 200403*. http://digitalcommons.uconn.edu/econ_wpapers/200403.
- Mattila, M., Karjaluoto, H., & Pentto, T. (2003). Internet banking adoption among mature customers: early majority or laggards?. *Journal of Services Marketing*, 17(5): 514-528.
- Mintel. A (2000). New technology and financial services-special report December. from www.rwreports.mintel.com

- Mirchandani, D. A. & Motwani, J. (2001). Understanding small business electronic commerce adoption: An empirical analysis. *Journal of Computer Information Systems*, 41(3): 70–73.
- Mitchell, V. W. & Bates, L. (1998). UK consumer decision-making styles. *Journal of Marketing Management*, 14(1/3): 199–225.
- Mitchell, W. (1992). Understanding consumers behaviour: Can perceived risk theory help? *Management Decision*, 3: 26–31.
- Mitchell, W. (1999). Consumer perceived risk: Conceptualisation and models. *European Journal of Marketing*, 33: 163–195.
- Mittelstaedt, J. D. (2002). A Framework for understanding the relationships between religions and markets. *Journal of Macromarketing June* 22(1): 6–18.
- Mnhal al thqafah al tarboyah (education forum). (2011). Compulsory of education in Saudi Arabia. Retrieved: 19 10 2011 from <http://www.manhal.net/articles.php?action=show&id=284>
- Mokhlis, S. (2006). The effect of religiosity on shopping orientation: An exploratory study in Malaysia. *The Journal of American Academy of Business, Cambridge*, 9,(1). Retrieved: 01-02-2012 from <http://www.jaabc.com/jaabcv9n1preview.html>,
- Mols, N. (1998). The behaviour consequences of PC banking. *International Journal of Bank Marketing*, 16 (5):195–201.
- Mols, N. P. (2000). The Internet and services marketing - the case of Danish retail banking. *Internet Research*, 10(1): 7–18.
- Monsuwe, T.P., Dellaert, B.G.C. & de Ruyter, K.R. (2004). What drives consumers to shop online? A literature review. *Int. J. Services Industry Manag.* 15(1): 102–121.
- Moon, J.-W. & Kim, Y.-G. (2001). Extending the TAM for a world-wide-web context. *Information & Management*, 38: 217–230.
- Moore, G. & Benbasat, I. (1991). Development of an instrument to measure the perception of adopting an information technology innovation. *Information Systems Research*, 2(3): 192–222.
- Morgan, G. & Smircich, L. (1980). The case of qualitative research. *Academy of Management Review*, 5: 491–500.
- Morris, M. G., Venkatesh, V. & Ackerman, P. L. (2005). Gender and age differences in employee decisions about new technology: An extension to the theory of planned behavior. *IEEE Transactions on Engineering Management*, 52 (1): 69–84.
- Morris, M.G., & Venkatesh, V. (2000). Age Differences in Technology Adoption Decisions: Implications for a Changing Workforce. *Personnel Psychology*, 53: 375-403.
- Morse, J. M. (1991a). On funding qualitative proposals [Editorial]. *Qualitative Health Research*, 192: 147-151.
- Moser, H. (1999). *Thick Description and Abduction: Paradigm Change in Social Research*. Retrieved: 01 May 2012 from <http://www.schulnetz.ch/unterrichten/fachbereiche/medienseminar/paradigms.htm>

- Muhammad, N. (2008). *Muslim consumers' motivation towards Islam and their cognitive processing of performing taboo behaviors*. Doctoral dissertation, University of Western Australia, Perth.
- Muhammad, R. (2009). Religiosity, ethical judgments and Malaysian Muslim students. *Journal of Business Systems, Governance and Ethics*, 4(1), 53-68.
- Mukherjee, A., & Nath, P. (2003). A model of trust in online relationship banking. *The International Journal of Bank Marketing*, 21(1): 5–15.
- Munson, J. M., & McIntyre, S. H. (1979). Developing practical procedures for the measurement of personal values in cross-cultural marketing. *Journal of Marketing Research*: 48-52.
- Mykytyn Jr, P. P., & Harrison, D. A. (1993). The application of the theory of reasoned action to senior management and strategic information systems. *Information Resources Management Journal (IRMJ)*, 6(2), 15-26.
- Naser, K., Jamal, A., & Al-Khatib, K. (1999). Islamic banking: a study of customer satisfaction and preferences in Jordan. *International Journal of Bank Marketing*, 17(3), 135-151.
- Nath, R., Akmanligil, M., Hjelm, K., Sakaguchi, T. & Schultz, M. (1998). Electronic commerce and Internet: issues, problems and perspectives. *International Journal of Information Management*, 18(2): 91–101.
- Nepomuceno, M. V. & Porto, J. B. (2010). Human values and attitudes toward bank services in Brazil. *The International Journal of Bank Marketing*, 28: 168–192.
- Neuman, W. L. (1997). *Social research methods: Qualitative and quantitative approaches*. (3rd ed.). Boston: Allyn and Bacon.
- Neuman, W. L. (1994). *Social research methods: Qualitative and quantitative approaches*, 2nd ed. MA: Allyn and Bacon.
- Newman, I., Ridenour, C. S., Newman, C., & De Marco, G. M. P. Jr. (2003). A typology of research purposes and its relationship to mixed methods. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 167–188). Thousand Oaks, CA: Sage.
- Nittin, E. & Sally, D. (2004). Religious influences on shopping behaviour: An exploratory study. *Journal of Marketing Management*, 20 (7–8): 683–712.
- Nix, T. W. & Gibson, J. G. (1989). Does a hospital's religious affiliation affect choice of hospital and patient satisfaction? *Journal of Health Care Marketing* 9(2): 40–41.
- Nosek, B. A., Banaji, M., & Greenwald, A. G. (2002). Harvesting implicit group attitudes and beliefs from a demonstration web site. *Group Dynamics: Theory, Research, and Practice*, 6(1), 101.
- Noonan, J. (2008). Ontology. In L. Given (Ed.), *The SAGE encyclopedia of qualitative research methods*. (pp. 578-582). Thousand Oaks, CA: SAGE Publications, Inc. doi: <http://dx.doi.org/10.4135/9781412963909.n298>.
- Nomani, F. (2006). The dilemma of riba-free banking in Islamic public policy. *Islam and the Everyday World: Public Policy Dilemmas*. Routledge, London, 193-223.
- Nomani, F. (2003). The problem of interest and Islamic banking in a comparative perspective: The case of Egypt, Iran and Pakistan. *Review of Middle East Economics and Finance* 1(1).

- Notani, A. S. 1998. Moderators of Perceived Behavioral Control's Predictiveness in the Theory of Planned Behavior: A Meta-Analysis. *Journal of Consumer Psychology*(7:3): 247-271.
- O'cass, A., & Fenech, T. (2003). Web retailing adoption: exploring the nature of internet users web retailing behaviour. *Journal of Retailing and Consumer services*, 10(2), 81-94.
- Oh, S., Ahn, J. & Kim, B. (2003). Adoption of broadband Internet in Korea: the role of experience in building attitudes. *J Inf Technol*, 18 (4): 267-280.
- Okumus, H. (2005). Interest-free banking in Turkey: A study of customer satisfaction and bank selection criteria. *Journal of Economic Cooperation*, 26(4): 51-86.
- Omer, H. (1992). *The Implication of Islamic beliefs and practice on Islamic financial institutions in the UK*. PhD Dissertation, Loughborough University, UK.
- Oppenheim, A. (1992). *Questionnaire design, interviewing and attitude measurement*. London: Printer Publishers,.
- Osoba, Brian J.(2003). Risk Preferences and the Practice of Religion: Evidence From Panel Data. Working paper, West Virginia University.
- Ostlund, L. E. (1974). Perceived innovation attributes as predictors of innovativeness. *Journal of Consumer Research*, 23-29.
- Owen, R. (2008). Islam overtakes Catholicism as world's largest religion. *Times Online*. Retrieved: 14 06 2009 from <http://www.timesonline.co.uk/tol/news/world/article3653800.ece>
- Ozdemir, S. & Trott, P. (2009). Exploring the adoption of a service innovation: A study of Internet banking adopters and non-adopters. *Journal of Financial Services Marketing*, 13(4): 284-99.
- Page, C. & Luding, Y. (2003). Bank managers' direct marketing dilemmas - consumers' attitudes and purchase intention. *The International Journal of Bank Marketing*, 21(3): 147-163.
- Parasuraman, A. (2000). Technology readiness index (TRI): A multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research*, 2(4): 307-321.
- Park, S.-H. (2007). *Role of personal values in acceptance of information technology*. University of South Carolina: ProQuest.
- Patton, M. (1990). *Qualitative evaluation and research methods*. Newbury Park, Calif: Sage Publications.
- Patton, M. Q. (1980). *Qualitative evaluation methods*. Beverly Hills, CA: Sage.
- Pallant, J. (2007) *SPSS Survival Manual: step-by-step guide to data analysis*, 3rd, Allen & Unwin, Australia.
- Parboteeah, D. V., Parboteeah, K. P., Cullen, J. B., & Basu, C. (2005). Perceived usefulness of information technology: a cross-national model. *Journal of Global Information technology management*, 8(4): 29.
- Pavlou, P. A. (2011). State of the information privacy literature: Where are we now and where should we go. *MIS Quarterly*, 35(4).
- Pavlou, P. A. & Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behavior. *Management Information Systems Quarterly*, 30(1): 115-143.

- Pavlou, A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *Journal of Electronic Commerce*, 7(3): 101–134.
- Pavlou, P. A., & Chai, L. (2002). What Drives Electronic Commerce across Cultures? A Cross Cultural Empirical Investigation of the Theory of Planned Behavior. *Journal of Electronic Commerce Research*, 3(4): 240-253.
- Perry, C., Riege, A., & Brown, L. (1999). Realism's role among scientific paradigms in marketing research. *Irish Marketing Review*, 12(2), 16-23.
- Peter, J.P. & Ryan, M.J. (1976). An investigation of perceived risk at the brand level. *Journal of Marketing Research*, 13: 184–188.
- Pewforum. (2011). The Future of the global Muslim population: Projections for 2010–2030. Retrieved: 15 5 2011 from <http://www.pewforum.org/>
- Phillips, L. A., Calantone, R. & Lee, M. T. (1994). International technology adoption: Behavior structure, demand certainty and culture. *Journal of Business & Industrial Marketing*, 9(2): 16–28.
- Pickard, A. J. (2012). *Research methods in information*, 2nd edition, {need publication place} Facet Publishing. ISBN: 978-1-85604-813-2
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H. & Pahlila, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research: Electronic Networking Applications and Policy*, 14(3): 224–235.
- Pitts, R. E. & Woodside, A. G. (1986). Personal values and travel decisions. *Journal of Travel Research*, 25(1): 20–25.
- Plouffe, C., Hulland, J. & Vandenbosch, M. (2001). Research report: Richness versus parsimony in modeling technology adoption-understanding merchant adoption of smart card-based payment system. *Information Systems Research*, 12(2): 208–222.
- Polasik, M., & Wisniewski, T. P. (2009). Empirical analysis of internet banking adoption in Poland. *International Journal of Bank Marketing*, 27(1), 32-52.
- Polatoglu, N. V. & Ekin, S. (2001). An empirical investigation of the Turkish consumers acceptance of Internet banking services. *International Journal of bank marketing*, 19(4): 156–165.
- Pookulangara, S., Hawley, J. & Xiao, G. (2011). Explaining multi-channel consumer's channel-migration intention using theory of reasoned action. *International Journal of Retail & Distribution Management*, 39 (3): 183–202.
- Premkumar, G. Ramamurthy, K. & Nilakanta, S. (1994), Implementation of electronic data interchange: an innovation diffusion perspective. *J. Manage. Inf. Syst.*, 11 (2): 157–186.
- Prakash, A. & Malik, G. (2008). Empirical Study of Internet Banking in India. *Internet Research*, 12(5): 83–92.
- Preacher, K. J. & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40: 879–891.

- Preacher, K. J. & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36: 717–731.
- Prins, R., & Verhoef, P. C. (2007). Marketing communication drivers of adoption timing of a new e-service among existing customers. *Journal of Marketing*, 71(2): 169-183.
- PRWEB. (2010). Global Internet banking customer base to reach 657.2 million by 2015, According to New Report by Global Industry Analysts, Inc. from http://www.prweb.com/releases/internet_banking/online_banking/prweb3453104.htm {access date needed} {check title of article}
- Puschel, J., J. A. Mazzon, & J. M. C. Hernandez, (2010). Mobile banking: Proposition of an integrated adoption intention framework. *International Journal of Bank Marketing*, 28 (5): 389-409.
- Putnam, L. (1983). The interpretative perspective: An alternative to functionalism. In: L. Putnam, and M. Pacanowsky (Eds.), *Communication and organizations*. Beverly Hills, CA: Sage. 1983.
- Puumalainen, K. & Sundqvist, S. (2005). Global diffusion of telecommunications innovations: A cross-cultural review. *International Journal of Technology Marketing*, 1(1): 22–36.
- Qur'an*. Undated. English translation of the meaning. Revised version of translation by Abdallah Yusuf Ali. Saudi Arabia: The Presidency of Islamic Researches, K. F. H. Q. a. P.
- Qureshi, T. (2008). Customer acceptance of online banking in developing economies *Journal of Internet Banking and Commerce*. Retrieved 23 11 2009 from <http://www.arraydev.com/commerce/JIBC/2008-04/Tahir%20Masood.pdf>
- Ramayah, T., Muhamad, J., Mohd Nasser Mohd, N., Koay Pei, L. & Razli Che, R. (2003). Receptiveness of Internet banking by Malaysian consumers: the case of Penang: Universiti Sains Malaysia Press.
- Ramsay, J. & Smith, M. (1999). Managing consumer channel usage in the Australian banking sector, *Managerial Auditing Journal*, 1(7): 32–33, MCB University Press.
- Rashid, Z., & Ibrahim, S. (2008). The effect of culture and religiosity on business ethics: A cross-cultural comparison. *Journal of Business Ethics*, 82: 907–917.
- Rayport, J.F. & Sviokl, J. J. (1994). Managing in the Market Space, *Harvard Business Review*, 72, November– December: 141–150.
- Rea, T. (2001). Engendering trust in electronic environments—roles for a trusted third party. In: C. Castelfranchi & Y. Tan (Eds.), *Trust and deception in virtual societies* (pp. 221–236). Dordrecht, the Netherlands: Kluwer Academic Publishers.
- Redding, S. (1993). *The Spirit of Chinese capitalism*. New York: Walter DeGruyter.
- Reeves, C., A., & Bednar, D.A. (1996). Key to market success a response and another view. *Journal of Retail Banking Services*, 18(4): 33–40.
- Rehman, A. & Shabbir, M. (2010). The relationship between religiosity and new product adoption, *Journal of Islamic Marketing*, 1 (1): 63 – 69

- Reinartz, W., Manfred Krafft, & Wayne D. Hoyer. (2004). The CRM Process: Its measurement and impact on performance. *Journal of Marketing Research*, 41 (August), 293–305.
- Renzetti, C. and Lee, R.M. (eds) (1993), *Researching Sensitive Topics*. Newbury Park, CA: Sage.
- Reynolds, T. J., & Gutman, J. (1988). Laddering theory, method, analysis, and interpretation. *Journal of Advertising Research*, 28, February/ March: 11–31.
- Rice, G. (1999). Islamic ethics and the implications for business. *Journal of Business Ethics* 18: 345–358.
- Rice, G. & Al-Mossawi, M. (2002). The Implications of Islam for Advertising Messages: The Middle Eastern Context. *Journal of Euromarketing*. Retrieved: 09 06 2009, from <http://www.haworthpressinc.com/store/product.asp?sku=J037>
- Riffai, M. M. M. A., Grant, K. & Edgar, D. (2011). Big TAM in Oman: Exploring the promise of on-line banking, its adoption by customers and the challenges of banking in Oman. *International Journal of Information Management*, 32(3): 239–250.
- Ringle, C. M. Wende, S. & Will, S. (2005). SmartPLS 2.0 (M3) Beta, Hamburg. Retrieved 01-05-2012 from: <http://www.smartpls.de>.
- Riquelme, H. E. & Rios, R.E.. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, 28(5): 328–41.
- Riley, F. D. O., Scarpi, D., & Manaresi, A. (2009). Purchasing services online: a two-country generalization of possible influences. *Journal of Services Marketing*, 23(2), 92-102.
- Roberto, A. J., Krieger, J. L., Katz, M. L., Goei, R. & Jain, P. (2011). Predicting pediatricians' communication with parents about the human papillomavirus (HPV) vaccine: An application of the theory of reasoned action. *Health Communication*, 26(4): 303–312.
- Robertson, T. S & Wind Y. (1980). Organizational psychographics and innovativeness. *Journal of Consumer Research*, 7(1): 24–31.
- Robinson, T. (2000). Internet banking: Still not a perfect marriage, *Informationweek.com*, April 17: 104–106.
- Roca, Juan Carlos, Juan José García, & Juan José de la Vega. (2009). The importance of perceived trust, security and privacy in online trading systems. *Information Management & Computer Security* 17 (2): 96-113.
- Roccas, S. (2005). Religion and Value Systems. *Journal of Social Issues*, 61(4): 747–759.
- Roccas, S. & Schwartz, S. (1997). Church-state relations and the association of religiosity with values: A study of Catholics in six countries. *Cross-Cultural Research*, 31(4): 356–375.
- Rocco, T. S. R. T. S., Bliss, L. A. B. L. A., Gallagher, S. G. S., Pérez, A. P. A., & Prado, P. (2003). Taking the Next Step: Mixed Methods Taking the Next Step: Mixed Methods Research in Organizational Systems Research in Organizational Systems. *Information technology, learning, and performance journal*, 21(1): 19.
- Rogers, M. (2003). *Diffusion of innovations*, fourth ed. New York: Free Press.

- Rogers, E. M. (1995). Diffusion of Innovations: modifications of a model for telecommunications. In *Die Diffusion von Innovationen in der Telekommunikation* (pp. 25-38). Springer Berlin Heidelberg.
- Rogers, M. (1983). *The diffusion of innovations*. New York: Free Press.
- Rogers, M. (1976). New product adoption and diffusion. *Journal of Consumer Research*, 2(4): 290–301.
- Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91, 93-114.
- Rogers, E. M. (1962). Diffusion of Innovations, 7th Printing. *New York/London*.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Rokeach, M. (1972). *Beliefs, attitudes and values*. San Fransisco: Jossey-Bass.
- Rokeach, M. (1968). *Beliefs attitudes and values*. San Fransisco: Jossey-Bass.
- Röcker, C (2010). Why Traditional Technology Acceptance Models Won't Work for Future Information Technologies? *World Academy of Science, Engineering and Technology*, 4:05–23.
- Roman, R (2003). Diffusion of Innovations as a Theoretical Framework for Telecenters. *Information Technologies and International Development*, 1 (2): 53-66.
- Roscoe, J. T. (1969). *Fundamental research statistics for the behavioral sciences*. 2nd edition. New York: Holt, Rinehart and Winston.
- Rose, G. & Straub, D. (1998). Predicting general IT use: Applying the TAM to the Arab world. *Journal of Global Information Managment*, 6(3): 39–46.
- Rose, G.M., Evaristo, R. & Straub, D. (2003). Culture and consumer responses to web download time: A four-continent of mono and polychronism. *IEEE Transactions On Engineering Managment*, 50(1).
- Roselius, T. (1971). Consumer rankings of risk reduction methods. *Journal of Marketing*, 35(1): 56–61.
- Rossouw, G. J. (1994). Business ethics: Where have all the Christians gone?. *Journal of Business Ethics*, 13(7): 557-570.
- Ross, D. (2001). Electronic communications: Do cultural dimensions matter? *American Business Review*, 19 (2): 75–81.
- Ross, J. W., Beath, C. M. & Goodhue, D. L. (1996). Developing long-term competitiveness through IT assets. *Sloan Management Review*, 38(1): 31–42.
- Rotchanakitumnuai, S. & Speece, M. (2003). Barriers to Internet banking adoption: A qualitative study among corporate customers in Thailand. *The International Journal of Bank Marketing*, 21(6–7): 312–323.
- Roy, A. (1994). Correlates of mall visit frequency, *Journal of Retailing*, 70 (2): 139-161, ISSN 0022-4359, [http://dx.doi.org/10.1016/0022-4359\(94\)90012-4](http://dx.doi.org/10.1016/0022-4359(94)90012-4).
- Rubin, A. & Babbie, E. (1993). *Research methods for social work*. Belmont, California: Wadsworth Publishing Co.
- Rubin, H. & Rubin, I. (1995). *Qualitative interviewing: the art of hearing data*. Sage Publication.
- Ryan, A. B. (2006). Post-positivist approaches to research. *Researching and Writing your Thesis: a guide for postgraduate students*, 12-26.
- Ryan, M. J. & Bonfield, E. H. (1980). Fishbein's intentions model: A test of external and pragmatic validity. *Journal of Marketing*, 44(2): 82–95.

- Saaid net. (2011). Marriage age in Islam. Retrieved: 01-11-2011 from:
<http://www.saaid.net/mktarat/alzawaj/126.htm>
- Saga, V. & Zmud, R.W. (1994). The nature and determinants of IT acceptance, routinization and infusion. In: *Diffusion, Transfer, and Implementation of Information Technology*, L. Levine (ed.), North Holland, New York.
- Sadiq Sohail, M., & Shanmugham, B. (2003). E-banking and customer preferences in Malaysia: An empirical investigation. *Information sciences*, 150(3), 207-217.
- Sahih bukhari. Volume 3, Book 34, Number 382. Retrieved: 12 05 2010 from
http://www.quranenglish.com/hadith/Sahih_bukhari.htm
- Sait, S. Al-Tawil, K. & Hussain, S. (2004). E-commerce in Saudi Arabia: Adoption and perspectives. *Australasian Journal of Information Systems*, 12(1).
- Saldana, J. (2009). *The coding manual for qualitative researchers*. London: Sage.
- SAMA. (2011). Distribution of ATMs in Saudi Arabia. Retrieved: 01 12 2011 from
<http://www.sama.gov.sa/Pages/Home.aspx>
- Sarantakos, S. (1993). *Social Research*. South Melbourne, Australia: MacMillan Education Australia.
- Sarantakos S. (1998). *Social research*. 2nd ed. London: MacMillan Press.
- Sanchez-Franco, Manuel J., (2010). WebCT – The quasi moderating effect of perceived affective quality on an extending Technology Acceptance Model, *Computers & Education*. 54 (1): 37-46, ISSN 0360-1315,
<http://dx.doi.org/10.1016/j.compedu.2009.07.005>.
- Sanjukta Pookulangara, Jana Hawley, & Ge Xiao, (2011). Explaining multi-channel consumer's channel-migration intention using theory of reasoned action. *International Journal of Retail & Distribution Management*, 39 (3): 183 – 202.
- Saroglou, V., Delpierre, V. & Dernelle, R. (2004). Values and religiosity: A meta-analysis of studies using Schwartz's model. *Personality and Individual Differences*, 37(4): 721–734.
- Sarstedt, M., Henseler, J., & Ringle, C. M. (2011). Multigroup analysis in partial least squares (PLS) path modeling: Alternative methods and empirical results. *Advances in International Marketing*, 22, 195-218..
- Sathye, M. (1999). Adoption of Internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*, 17(7): 324–334.
- Saudi Communications Commission. (2011). Pentaration of internet service in Saudi Arabia Retrieved: 01-12-2011 from:
<http://www.citc.gov.sa/Arabic/Pages/default.aspx>
- Saudis in Glasgow, Saudi students in Glasgow (2010). Retrieved: 01-11-2011
<http://www.saudisinglasgow.com/>
- Saunders, M., Lewis, P. & Thornhil, A. (2007). *Research methods for business students*. Fourth Edition. England: Prentice Hall.
- Schensul, J. J. (2008). Methodology. In L. M. Given (Ed.) *Sage Encyclopedia of qualitative research methods*. Thousand Oaks, CA: Sage Publications.
- Schultz, M., & Hatch, M. J. (1996). Living With Multiple Paradigms the Case of Paradigm Interplay in Organizational Culture Studies. *Academy of Management Review*, 21(2), 529-557.

- Schultze, U. (2003). Complementing self-serve technology with service relationships: The customer perspective. *E-Service Journal*, 3(1): 7–31.
- Schwartz, S. (2010). Basic human values: An overview. Retrieved: 05 09 2010 from http://seangallaghersite.com/yahoo_site_admin/assets/docs/schwartz2006to_page_12.4180215.pdf
- Schwartz, S. H. & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*, 53: 550–562.
- Schwartz, S. & Huismans, S. (1995). Value priorities and religiosity in four western religions. *Social Psychology Quarterly*, 58(2).
- Schwartz, S. H. (2005). Basic human values: Their content and structure across countries. In: A. Tamayo & J. B. Porto (Eds.), *Valores e comportamento nas organizações* [Values and behavior in organizations] pp. 21–55. Petrópolis, Brazil: Vozes.
- Schwartz, S. H. & Bilsky, W. (1990). Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology*, 58: 878–891.
- Schwartz, S. H. & Bilsky, W. (1987). Toward a psychological structure of human values. *Journal of Personality and Social Psychology*, 53: 550–562.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in experimental social psychology*, 25(1): 1-65.
- Schwartz, S. H. & Bardi, A. (2001). Value hierarchies across cultures. *Journal of Cross-Cultural Psychology*, 3 (3): 268–290.
- Schwartz, S. H. & Mark, P. Z. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology* (25: 1–65): Academic Press.
- Schwartz, S. H., Sagiv, L. & Antonovsky, A. (1991). *The stability and social desirability of value priorities*. Israel: Hebrew University of Jerusalem. Submitted for publication.
- Schwartz, S. H., Sagiv, L. & Boehnke, K. (2000). Worries and values. *Journal of Personality*, 68: 309–346.
- Segars, A. H., & Grover, V. (1993). Re-examining perceived ease of use and usefulness: A confirmatory factor analysis. *MIS Quarterly*, 17(4): 517–525.
- Sekaran, U. (1992). *Research methods for business*. 2nd Edition: England, John Wiley and Sons, Inc.
- Selnes, F. & Hansen, H. (2001). The potential hazard of self-service in developing customer loyalty. *Journal of Service Research: JSR*, 4(2): 79.
- Shah, B. A., Shah, A. V., & Singh, R. R. (2009). Sorption isotherms and kinetics of chromium uptake from wastewater using natural sorbent material. *International Journal of Environmental Science & Technology*, 6(1), 77-90.
- Shaw, D. S., & Clarke, I. (1998). Culture, consumption and choice: towards a conceptual relationship. *Journal of Consumer Studies & Home Economics*, 22(3): 163-168.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of consumer Research*, 325-343.

- Sheth, J. N. & Mittal, Banwari. (2004). *Customer behavior: A managerial perspective*. 2nd ed. Thomson South-Western. New York, United States.
- Sheth, J. N. & Ram, S. (1987). Bringing innovation to market: how to break corporate and customer barriers, Wiley, New York, ISBN-13: 9780471849773.
- Sheth, J. N. (1981). *An integrative theory of patronage preference and behavior*. College of Commerce and Business Administration, Bureau of Economic and Business Research, University of Illinois, Urbana-Champaign.
- Shih, Y.-Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. *Internet Research*, 14(3): 213-223.
- Shih, C. & Venkatesh, A. (2004). Beyond adoption: Development and application of use-diffusion model. *Journal of Marketing*, 68: 59-72.
- Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online pre-purchase intentions model: The role of intention to search: Best Overall Paper Award—The Sixth Triennial AMS/ACRA Retailing Conference, 2000- 11- Decision made by a panel of Journal of Retailing editorial board members. *Journal of retailing*, 77(3), 397-416.
- Shim, S., & Eastlick, M. A. (1998). The hierarchical influence of personal values on mall shopping attitude and behavior. *Journal of Retailing*, 74(1), 139-160.
- Shoib, G. M. & Jones, M. R. (2003). Focusing on the invisible: the representation of IS in Egypt. *Information Technology & People* (16:4), pp.440 – 460.
- Shreim, M. A., & Taks, M. (2009, May). Religious Influence on Sports Apparel Consumption: An Exploratory Study of the Muslim Market Segment. In *paper (poster) presented at the Annual Conference of the North American Society for Sport Management (NASSM)* (pp. 27-30).
- Shrestha, Laura B. & Heisler, Elayne J. (2011). The changing demographic profile of the United States. *Congressional Research Service*. Retrieved: 05-09-2009 from <http://www.fas.org/sgp/crs/misc/RL32701.pdf>
- Shteiwi, M. (2003). Arab women, the Internet and public space. Retrieved: 09-04-2010, from <http://www.qantara.ed/webcom/show-article>.
- Shweder, R. A. (1991). *Thinking through cultures: Expeditions in cultural psychology*. Cambridge, MA: Harvard University Press.
- Siala, H., O'Keefe, R. M. & Hone, K. S. (2004). The impact of religious affiliation on trust in the context of electronic commerce. *Interacting with Computers*, 16(1): 7-27.
- Silverman, D. (2006). *Interpeting qualitative data*. Thousand Oaks, California: Sage Publications.
- Singer, D., Avery, A. & Baradwaj, B. (2008). Management innovation and cultural adaptability in international online banking. *Management Research News*, 31(4): 258-272.
- Singhal, D. & Padhmanabhan, V. (2008). A study on customer perception towards Internet banking: Identifying major contributing factors. *The Journal of Nepalese Business Studies*, 1: 101 – 111.
- Singhapakdi, A., Marta, J. K., Rallapalli, K. C. & Rao, C. P. (2000). Toward an understanding of religiousness and marketing ethics: An empirical study. *Journal of Business Ethics*, 27(4): 305-319.

- Slowikowski, S. & Jarratt, D. G. (1997). The impact of culture on the adoption of high technology products. *Marketing Intelligence & Planning*, 15(2): 97–105.
- Smith, J. (1995). Semi-structured interviewing and qualitative analysis. In: J. Smith, r. Harre & L. Langenhove (Eds.), *Rethinking method in psychology*. Thousand Oaks, CA: Sage Publications.
- Smith, M. C., Kahle, L. R., Frankenberger, K. D. & Batra, R. (2005). Religiosity and social risk. Paper presented at *Association for Consumer Research European Conference*, Gotenberg, Sweden.
- Soares, A. M., Farhangmehr, M. & Shoham, A. (2007). Hofstede's dimensions of culture in international marketing studies'. *Journal of Business Research*, 60(3): 277–284.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In: S. Leinhardt (Ed.), *Sociological methodology 1982* (pp.290–312). San Francisco: Jossey-Bass.
- Sood, J. & Nasu, Y. (1995). Religiosity and nationality: An exploratory study of their effect on consumer behavior in Japan and the United States. *Journal of Business Research*, 34(1): 1–9.
- Sparks, P., Shepherd, R. & Frewer, L. J. (1995). Assessing and structuring attitudes towards the use of gene technology in food production: The role of perceived ethical obligation. *Journal of Basic and Applied Social Psychology*, 16: 267–285.
- Spector, P. & Cooper, C. (2002). The Pitfalls of poor psychometric properties: Rejoinder to Hofstede's reply to us. *Applied Psychology*, 51(1): 174–178.
- Spiggle, S. (1994). Analysis and interpretation of qualitative data in consumer research, *Journal of Consumer Research*, 21(3): 491 – 503.
- Srite, M. & Karahanna, E. (2006) The role of espoused national cultural values in technology acceptance. *MIS Quarterly*, 30(3): 679–704.
- Stamoulis, D. S. (2000). How banks fit in an internet commerce business activities model. *Journal of Internet Banking and Commerce*, 5(1), 0001-03.
- Stanovich, K. E. & West, R. F. (1999). Discrepancies between normative and descriptive models of decision making and the understanding/acceptance principle. *Cognitive Psychology*, 38: 349–385.
- Stark, R., & Glock, C. Y. (1968). *American piety: The nature of religious commitment* (Vol. 1). University of California Press.
- Statistics Canada. (2003). Survey method and practice. (Authority of the Minister responsible for Statistics Canada, Canada).
- Stewart, K. (1999). Transference as a means of building trust in world wide web sites. *Proceedings of the 20th International Conference on Information Systems* (pp. 459–464).
- Straub, D., Boudreau, M. C., & Gefen, D. (2004). Validation guidelines for IS positivist research. *The Communications of the Association for Information Systems*, 13(1): 63.
- Straub, D. (1994). The effect of culture on IT diffusion: E-mail and Fax in Japan and U.S. *Information Systems Research*, 5(1): 23–47.

- Straub, D., Karen, L. & Hill, E. (2001). Transfer of information technology to Arab world: A test of cultural modeling. *Journal of Information Management*, 9 (4): 6–28.
- Straub, D., Keil, M. & Brenner, W. (1997). Testing the technology acceptance model across culture: A three country study. *Information and Management*, 33: 1–11.
- Straub, D., Loch, W., Aristo, R., Karanhanna, E. & Strite, M. (2002). Toward a theory based measurement of culture. *Journal of Global Information Management*, 10(1): 13–23.
- Straub, D. & Calson, C. (1989). Validating instruments in MIS research. *MIS Quarterly*, June: 147–168.
- Sturm, R. & Cohen, D. A. (2004). *Suburban sprawl and physical and mental health*. *Public Health*, 118(7, October): 488–496.
- Subramanian, G. H. (1994). A replication of perceived usefulness and perceived ease of use measurement. *Decision Sciences*, 25(5/6): 863–74.
- Suganthi, R., Balachandher, K.G. & Balachandran V. (2001). Internet banking patronage: An empirical investigation of Malaysia. *Journal of Internet Banking and Commerce*, 6(1).
- Suh, B. & Han, I. (2002). Effect of trust on consumers acceptance of Internet banking. *Electronic Commerce Research and Applications*, 1(3): 247–263.
- Suhail, K. & Chaudhry, H. R. (2004). Predictors of subjective well-being in an Eastern Muslim culture. *Journal of Social and Clinical Psychology*, 23(3): 359–376.
- Sun, H. & Zhang, P. (2006). The role of moderating factors in user technology acceptance. *International Journal of Human-Computer Studies*, 64(2): 53–78.
- Sun, P. C., & Cheng, H. K. (2007). The design of instructional multimedia in e-Learning: A Media Richness Theory-based approach. *Computers & Education*, 49(3), 662-676.
- Sureshchandar, G. S., Rajendran, C., & Anantharaman, R. N. (2002). The relationship between service quality and customer satisfaction—a factor specific approach. *Journal of services marketing*, 16(4): 363-379.
- Swan, J. E., Bowers, M.R. & Richardson, L.D. (1999). Customer trust in the salesperson: An integrative review and meta-analysis of the empirical literature. *Journal of Business Research*, 44(2): 93–107.
- Sweeney, Jillian C., Hausknecht, Douglas & Soutar, Geoffrey N., (2000). Cognitive Dissonance after Purchase: A Multidimensional Scale. *Psychology & Marketing*, 17 (5): 369-385.
- Syed, I. (2009). The pleasures of seeking knowledge. IslamiCity, Education Social - Article Ref: IC0601-2883, <http://www.islamicity.com/articles/Articles.asp?ref=IC0601-2883>.
- Szajina, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science*, 42(1): 85-92.
- Taai, N. M. (1985). *Religious Behavior Scale*. Kuwait: Arrobyaan Publishing.
- Tabachnick, B. & Fidell, L. (2000). *Using Multivariate Statistics*. 4th edition: Prentice Hall, Upper Saddle River, New Jersey.
- Tan, M. & Teo, T. (2000). Factors influencing the adoption of Internet banking. *J. Assoc Information Systems*, 1(5): 1–42.

- Tang, D. & Chen, L. (2011). A review of the evolution of research on information technology acceptance model. *Business Management and Electronic Information (BMEI), 2011 International Conference on 13–15 May 2011* (2): 588 – 591: Conference Publications
- Tansuhaj, John J. J. P Manzer L & Gentry J. (1986). *Fatalism and explanation of the cross-cultural differences in the perception of uncertainty in the marketplace*. AMA Workshop on Culture and Subculture. Chicago: De Paul University.
- Tansuhaj, P., Gentry, J. W., John, J., Manzer, L. L., & Cho, B. J. (1991). A cross-national examination of innovation resistance. *International Marketing Review*, 8(3).
- Tansuhaj, John, J. Manzer, L. & Gentry, J. (1986). Fatalism as an Explanation of the Cross-cultural Differences in the Perception of Uncertainty in the Marketplace. AMA Workshop on Culture and Subculture, De Paul University, Chicago.
- Tashakkori, A., & Teddlie, Ch. (2009). Integrating Qualitative and Quantitative Approaches to Research. In Rog and Bickman (Eds.), *Handbook of Applied Social Research Methods* (2nd Edition). Thousand Oaks, CA: Sage.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches* (Vol. 46). Sage.
- Tashakkori, A. & Creswell, J. W. (2007). Editorial: Exploring the nature of research questions in mixed methods research. *Journal of mixed methods research*, 1(3), 207–211.
- Taylor, J. (2005). Customer satisfaction rises, but privacy concerns remain. *Region Focus* (spring), 9.
- Taylor, S. & Todd, P. (1995a). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in Marketing*, 12(2): 137–155.
- Taylor, S. & Todd, P. A. (1995b). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2): 144–176.
- Tellis, G. T., Prabhu, C. J. & Chandy, R. K. (2009). Radical innovation across nations: The preeminence of corporate culture. *Journal of marketing: A quarterly publication of the American Marketing Association*, ISSN 0022-2429, 73(1): 3–23.
- Tenenhaus, M., Esposito, V. V., Chatelin, Y. M. & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, 48: 159–205.
- Teo, H., Chan, W. K. & Zhang, Z. (2003). Evaluating information accessibility and community adoptivity features for sustaining virtual learning communities. *International Journal of Human Computer Studies*, 59: 671–697.
- Teo, T., Lim, V. & Lai, R. (1999). Intrinsic and extrinsic motivation in Internet usage. *Omega International Journal of Management*, 27(1): 25–37.
- Teo, Hock-Hai., Chan, Hock-Chuan., Wei, Kwok-Kee., & Zhang, Zhongju, (2003). Evaluating information accessibility and community adaptivity features for sustaining virtual learning communities, *International Journal of Human-Computer Studies*, Volume 59, Issue 5, Pages 671-697, ISSN 1071-5819, [http://dx.doi.org/10.1016/S1071-5819\(03\)00087-9](http://dx.doi.org/10.1016/S1071-5819(03)00087-9).

- Terpstra, V. & Sarathy, R. (2000). *International Marketing*, 8th ed. Fort Worth, FL: The Dryden Press.
- Thagard, P. (2005). *Mind: Introduction to cognitive science*. Second Edition, Cambridge, MA: MIT Press.
- Theodore, H. & Clark, H. G. L. (1998). *Security First Network Bank: A case study of an Internet pioneer*. Paper presented at the HICSS, Thirty-First Annual Hawaii International Conference on System Sciences.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1994). Influence of experience on personal computer utilization: Testing a conceptual model. *J. Manage. Inf. Syst.*, 11(1): 167–187.
- Thompson, R. L., Higgins, C. A., & Howell, J.M. (1991). Personal Computing: Toward a Conceptual Model of Utilization. *MIS Quarterly*(15:1):125-143.
- Thompson, R.C. & Hunt, J. (1996). Inside the black box of alpha, beta, and gamma change: Using a cognitive-processing model to assess attitude structure. (3): 655–690.
- Thompson, C. & Tambyah, S. K. 1998. Rethinking theories of 'consumer culture' through postmodern analyses of consumption and the production of hybrid cultural forms. In J. W. Alba and J. W. Hutchinson (Eds.). *Advances in Consumer Research*, 25: 58-59. Provo, UT: Association for Consumer Research.
- Thornton, J., & White, L. (2001). Customer orientations and usage of financial distribution channels. *Journal of Services Marketing*, 15(3): 168-185.
- Ticehurst, B. & Veal, A.J, (2000). *Business research methods: a managerial approach*, Pearson Education Australia.
- Torkzadeh, G. & Doll, J. (1999). The development of a tool for measuring the perceived impact of information technology on work. *International Journal of Management Science*, 27: 327–339.
- Torkzadeh, G & Dhillon, G (2002). Measuring Factors that Influence the Success of Internet Commerce. *Information Systems Research*, 13:187-204.
- Tornatzky, L. G. & Klein, K. J.. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on Engineering Management*, EM-29(1): 28–45.
- Tornatzky, L.G., & Fleicher, M. (1990). *The Process of Technological Innovation*. Lexington Young Books.
- Triandis, H. C. (1979). *Values, Attitudes, and Interpersonal behaviour*. Nebraska Symposium on Motivation: Beliefs, Attitude, and Values , University of Nabraska Press: 195 - 259.
- Trochim, William M. (2006). *The Research Methods Knowledge Base*, 2nd Edition: <http://www.socialresearchmethods.net/kb/> .
- Tsang, E. (2002). Acquiring knowledge by foreign partners from international joint ventures in a transition economy: Learning-by-doing and learning myopia. *Strategic Management Journal*, 23(9): 835–854.
- Tyler, K. & Stanley, E. (2007). The role of trust in financial services business relationships. *Journal of Services Marketing*, 21(5): 334–44.

- Udo, G. J., Bagchi, K. & Kirs, P. (2008). Diffusion of ICT in developing countries: A qualitative differential analysis of four nations. *Journal of Global Information Technology Management*, 10(1).
- Valencia, H. (1989). Hispanic values and subcultural research. *Journal of Academy of Marketing Science*, 17(1): 23–28.
- Van Biljon, J., & Renaud, K. (2008). A qualitative study of the applicability of technology acceptance models to senior mobile phone users. In *Advances in conceptual modeling—Challenges and opportunities* (pp. 228-237). Springer Berlin Heidelberg.
- Van Buren, I. H. J. & Agle, B. R. (1998). Measuring Christian beliefs that affect managerial decision-making: A beginning. *International Journal of Value-Based Management*, 11(2): 159–177.
- Van Everdingen, Y. & Waarts, E. (2003). A multi-country study of the adoption of ERP systems: The effect of national culture. Retrieved: 01-01-2008 from <http://hdl.handle.net/1765/280>.
- Veiga, J. F., Floyd, S. & Dechant, K. (2001). Toward modeling the effect of national culture on IT implementation and acceptance. *Journal of Information Technology*, 16: 145–158.
- Venaik, S., Midgley, D. F. & Devinney, T. M. (2005). Dual paths to performance: The impact of global pressures on MNC subsidiary conduct and performance. *Journal of International Business Studies*, 36(6): 655–675.
- Venkatesh, V. & Davis, D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46 (2):186–204.
- Venkatesh, V. & Davis, D. (1996). A model of antecedents of perceived ease of use: Development and test. *Decision Sciences*, 27(3): 450–481.
- Venkatesh, V. & Morris, M. (2000). Why don't men ever stop to ask for directions? Gender, social influence and their role in technology acceptance and usage behaviour. *MIS Quarterly*, 24(1): 115–139.
- Venkatesh, V. & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2): 273–315.
- Venkatesh, V., Morris, M. G. & Davis, D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3): 425–478.
- Venkatesh, V., Brown, S. A. & Bala, H. (2013). Bridging the qualitative–quantitative divide: Guidelines for conducting mixed methods research in information systems, *MIS Quarterly*, 37(1): 21–54.
- Van Raaij, E.M. & Schepers, J.J.L. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education*, 50 (3): 838-852.
- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information systems research*, 11(4): 342-365.
- Venkatesh, V., Davis, F. D., & Morris, M. G. (2007). Dead or Alive? The Development, Trajectory and Future of Technology Adoption Research. *Journal of the AIS* (8:4): 268-286.

- Venkatesh, A., & Vitalari, N. P. (1991). Longitudinal surveys in information systems research: An examination of issues, methods, and applications. *The Information Systems Challenge: Survey Research Methods*, 115-144.
- Vijayarath, L. R. (2004). Predicting consumer intentions to use on-line shopping: The case for an augmented technology acceptance model. *Information & Management*, 41: 747-762.
- Vitell, S., Paolillo, J. & Singh, J. (2005). Religiosity and consumer ethics. *Journal of Business Ethics*, 57(2): 175-181.
- Von der Heid, T. & Scott, D.R. (2007). Partial aggregation for complex structural equation modelling (SEM) and small sample sizes: An illustration using a multi-stakeholder model of cooperative interorganisational relationships (IORs) in product innovation' paper presented to the 21st ANZAM 2007 Conference, Sydney, 4-7 December.
- Von der Mehden, F. (1986). *Religion and modernization in South East Asia*. New York, NY: Syracuse University Press.
- Waddell, D. & Cowan, E. (2003). Resistance: A medium for a successful implementation of technological innovation. In: M. Singh & D. Waddell (Eds.), *E-Business Innovation and Change Management*. Hershey, PA: Idea Group Publishing, pp. 70-84.
- Walker, R. H., Craig-Lees, M., Hecker, R. & Francis, H. (2002). Technology-enabled service delivery: An investigation of reasons affecting customer adoption and rejection. *International Journal of Service Industry Management*, 13(1): 91-106.
- Walsham, G. (1993). *Interpreting information system organization*. Chichester: Wiley.
- Walliman, N., (2006). *Social research methods*. London: Sage Publications Ltd.
- Wan, W. W. N., Luk, C.-L. & Chow, C. W. C. (2005). Customers' adoption of banking channels in Hong Kong. *The International Journal of Bank Marketing*, 23(3): 255-272.
- Wang, Y. S., Wang, Y.M., Lin, H. H. & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: an empirical study. *International Journal of Service Industry Management*, 14(5): 501-519.
- Wang, Z. & Sullivan, R. (2005). Internet banking: an exploration in technology diffusion and impact, *Federal Reserve Band of Kansas City Payments System Department*.
- Warren, J. G. (2002). Clinical acceptance of a low-cost portable system for postural assessment. *Behaviour and Information Technology* 21(1): 47-58.
- Warshaw, P. R. & Davis, F. D. (1985). Disentangling behavioral intention and behavioral expectation. *Journal of Experimental Social Psychology*, 21(3): 213-228.
- Weaver, G. & Agle, B. (2002). Religiosity and ethical behaviour in organisations: A symbolic interactionist perspective. *Academy of Management Review*, 27(1): 77-87.
- Webster, J., & Martocchio, J. J. (1992). Microcomputer playfulness: Development of a measure with workplace implications. *MIS Quarterly*, 16: 201-226.
- Westland, J. C. (2002). Transaction risk in electronic commerce. *Decision Support Systems*, 33(1): 87-103.

- Wetzels, M., Odekerken-Schr, G., Der, & Oppen, C. v. {clarify authors} (2009). Using PLS path modeling for assessing hierarchical construct models and empirical illustration. *MIS Quarterly*, 33(1): 177–195.
- Wen-Yuan Jen, Chia-Chen Chao, Ming-Chien Hung, Yu-Chuan Li, & Y. P. Chi: Mobile information and communication in the hospital outpatient service. 565-574
- Whitman, M. E. (2004). In defense of the realm: The threats to information security. *International Journal of Information Management*, 24(1): 43–57.
- Wiebe, K. F. & Fleck, J. R. (1980). Personality correlates of intrinsic, extrinsic, and nonreligious orientations. *The Journal of Psychology*, 105(2): 181–187.
- Wikipedia. (2011). Shia Islam in Saudi Arabia. Retrieved: 1-11-2011 from http://en.wikipedia.org/wiki/Shi%27a_Islam_in_Saudi_Arabia
- Wilkes, R., E., Burnett, J, J. & Howell, R, D. (1986). On the meaning and measurement of religiosity in consumer research. *Academy of Marketing Science*, 14 (1): 47–57.
- Williams, E. (1998). {clarify title} This publication is unrefereed and was submitted as a requirement for the MComms programme at Victoria University of Wellington. 26 March. Retrieved: 22 12 2012 from http://www.umdnj.edu/idswweb/idst6000/williams_research+paradigms.htm
- Williams, R. M. (1979). Change and stability in values and value systems: A sociological perspective. In: M. Rokeach (Ed.), *Understanding Human Values: Individual and Societal* New York, NY: Free Press.
- Williamson, S., Mueller, C., Van Deusen, C. & Perryman, A. (2007). The influence of national religion consciousness on entrepreneurial behavior. *International Business: Research Teaching and Practice*, 1:53–75.
- Winfield, I. (1990). *Organizations and information technology: System, power and job design*. {clarify location}: Alfred Waller Ltd.
- Wixom, B. H. & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16(1), 85–102.
- Wold, H. (1985). Partial Least Squares. In: S. Kotz & N. L. Johnson (Eds.), *Encyclopedia of Statistical Sciences 6*: 581–591. New York: Wiley.
- Wolf, R.A. (1994). Organizational innovation: review, critique and suggested research directions. *Journal of Management Studies*, 31 (3), 405-431.
- Woods, T. E., Antoni, M. H., Ironson, G. H. & Kling, D. W. (1999). Religiosity is associated with affective and immune status in symptomatic HIV-infected gay men. *Journal of Psychosomatic Research*, 46(2): 165–176.
- World fact book, The. (2012). *Saudi Arabia*. 01-03-2013 from <https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html>
- Worthington, E. L., Wade, N.G., Hight, T.L., Ripley, J.S., McCullough, M.E., Berry, J.W., Schmitt, M.M., Berry, J.T., Bursley, K.H. & O'Connor, L. (2003). The religious commitment inventory-10: Development, refinement, and validation of a brief scale for research and counseling. *Journal of Counseling Psychology*, 50: 84–96.
- Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software

- packages, and web survey Services. *Journal of Computer-Mediated Communication*, 10 (3).
- Wu, Jen-Her., Wang Shu-Ching., & Lin, Li-Min, (2007). Mobile computing acceptance factors in the healthcare industry: A structural equation model. *International journal of medical informatics* no.76: 66–77.
- Wu, P. F.(2012). A mixed methods approach to technology acceptance research. *Journal of the Association for Information Systems*, 13(3), Article 1. Available at: <http://aisel.aisnet.org/jais/vol13/iss3/1>
- Wulff, D. M. (1991). *Psychology of Religion: Classic and contemporary views*. New York: Wiley.
- Xue, M., Hitt, L. M. & Chen Pei-yu. (2011). Determinants and outcomes of Internet banking adoption. *Management Science*, 57(February, 2): 291–307
- Yang H-D. & Yoo, Y. (2004). It's all about attitude: Revisiting the technology acceptance model. *Decision Support Systems*, 38: 19–31.
- Yamani, M. (2000). *Changed identities: The challenge of the new generation in Saudi Arabia*. {clarify location} Brookings: Institute Press.
- Yavas, U. (1988). Banking behaviour in an Arabian Gulf country: A consumer survey. *International Journal for Banking Marketing*, 6(5): 40–48.
- Yen, H. J. R. & Gwinner, K. P. (2003). Internet retail customer loyalty: The mediating role of relational benefits. *International Journal of Service Industry Management*, 14(5): 483–500.
- Yi, M. Y., Jackson, J. D., Park, J.S. & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information and Management*, 43(3): 350–363.
- Yiu, C. S., Grant, K., & Edgar, D. (2007). Factors affecting the adoption of Internet Banking in Hong Kong implications for the banking sector. *International Journal of Information Management*, 27(5): 336–351.
- Yin, R. (2003). *Case study research: Design and methods*. Thousand Oaks, California: Sage Publications, Inc.
- Yousafzai, S. (2005). *Internet banking in the UK: A customer behaviour perspective*. PhD thesis, UK: Cardiff: Cardiff University.
- Yousafzai, S. & Yani-de-Soriano, M. (2012). Understanding customer-specific factors underpinning Internet banking adoption. *International Journal of Bank Marketing*, 30(1): 60 – 81.
- Yousafzai, S. Y., Foxall, G. R. & Pallister, J. G. (2010). Explaining Internet banking behavior: Theory of reasoned action, theory of planned behavior, or technology acceptance model? *Journal of Applied Social Psychology*, 40(5): 1172–1202.
- Yousafzai, S., Foxall, G. & Pallister, J. (2007a). Technology acceptance: Meta-analysis of TAM: Part 1. *Journal of Modelling in Management* 2(3): 251–280.
- Yousafzai, S., Foxall, G. & Pallister, J. (2007b). Technology acceptance: Meta-analysis: Part 2. *Journal of Modelling in Management*, 2(3): 281–304.
- Yousafzai, S. Y., Pallister, J. G. & Foxall, G. R. (2003). A proposed model of e-trust for electronic banking. *Technovation*, 23(11): 847–860.
- Zaharna, R. (1995). Understanding cultural preferences of Arab communication patterns. *Public Relations Review*, 21(3), 2241–2255.

- Zainul, N., Osman, F., & Mazlan, S. H. (2004). E-Commerce from an Islamic perspective. *Electronic Commerce Research and Applications*, 3(3), 280-293.
- Zanna, M. P. & Rempel, J. K. (1988). Attitudes: A new look at an old concept. In: D. Bartal & A. W. Kruglanski (Eds.), *The social psychology of knowledge*. pp. 315–334. Cambridge, UK: Cambridge University Press.
- Zeithaml, V. A. & Gilly, C. M. (1987). Characteristics affecting the acceptance of retailing technologies: A comparison of elderly and non-elderly consumers, *Journal of Retailing*, 23 (Spring): 49–68.
- Zelizer, V. A. (1978). Human values and the market: The case of life insurance and death in 19th-century America. *The American Journal of Sociology*, 84(3): 591–610.
- Zhang, X. & Prybutok, V.R. (2005). A consumer perspective of e-service quality. *IEEE Transactions on Engineering Management*, 53(4): 461–77.
- Zhou, Yuqiong (2008), Voluntary adopters versus forced adopters: integrating the diffusion of innovation theory and the technology acceptance model to study intra-organizational adoption *New Media & Society* June (10): 475-496, doi:10.1177/1461444807085382
- Zikmund, W. (2003). *Business Research Method*. Seventh Ed. Australia: South Western.
- Zinnbauer, B., Pargament, K., Cole, B., Rye, M. S., Butter, E. M., Belavich, T. G., Hipp, K. M., Scott, A. B. & Kadar, J. L. (1997). Religion and spirituality: Unfuzzifying the fuzzy. *Journal for the Scientific Study of Religion*, 36(4): 549–564.
<http://www.jstor.org/stable/1387689>
- Zint, M. (2002). Comparing three attitude-behavior theories for predicting science teachers' intentions. *Journal of Research in Science Teaching*, 39(9): 819-844.
- Zittrain, J. & Edelman, B. (2002). *Documentation of Internet filtering in Saudi Arabia*. Retrieved: 28 06 2009 from <http://cyber.law.harvard.edu/filtering/saudiArabia/>

Appendices

Appendix (A) Quantitative study

A1 Summary of the research model variables and their sources

Name of the scale	Items	Adopted from
Religious personality (33 items)	<ol style="list-style-type: none"> 1. I make efforts to deepen my understanding of Islamic law 2. I feel at peace when I hear the Qur'an recited. 3. I love my brothers and sisters in Islam as I love myself. 4. I try to understand the meanings of Qur'anic words/ verses. 5. I feel sad when Ramadan ends. 6. I advise others to perform obligatory prayer. 7. I find time to recite the Qur'an even if I am busy. 8. I thank Allah SWT when beggars come to my house 9. I do not expose the shortcomings of others. 10. I make the effort not to display my personal good deeds. 11. I usually discuss religious issues with my friends. 12. I make sure all my family members are following the Sunnah of our Prophet. 13. I make an ongoing effort to increase the frequency of my non-obligatory (nafil) prayers. 14. I do worry if I cannot pay debt on time. 15. I make efforts to have ablution (wudhu) at all time. 16. I will keep a person's identity hidden when I talk about them, if they are not present. 17. I do not neglect my friends' dignity. 18. I refer to religious scholars when I feel uncertain about Islamic rulings. 19. I like to help the poor without anyone knowing. 20. I make an effort to internalise the Prophet's ethics in my daily life. 21. I feel guilty when I hurt my parents. 22. I use public buses, walkways, etc. with care/respect. 23. I respect all opinions. 24. I feel happy when someone says praises one of my friends. 25. I have started saving money for Hajj since my early days. 26. I prefer to do any form of labour than to beg. 27. I make sure when I read the Qur'an, I understand its demands. 28. I like to take advantage of opportunities to understand Islam with my family. 29. I look for opportunities to give charity (Sadaqa) 30. I do not enter a person's house until I am allowed. 31. I make an effort to make my guests feel as comfortable as possible. 32. I give Zakah every year. (If I have completed nesab). 33. I work hard to achieve my goals to top standards. 	(Krauss & Idris, 2007)
Need for interaction (3 items)	<ol style="list-style-type: none"> 1. Personal contact with employees makes banking enjoyable for me. 2. Personal attention by employees at my bank is not important to me. 3. It bothers me to use a machine when I could talk to a live person instead. 	(Dabholkar, 1996)
Perceived ease of use (4 items)	<ol style="list-style-type: none"> 1. I think my interaction with the Internet-only banks will be clear and understandable. 2. I believe that it is easy to get the system difficult to use to do what I want it to do. 3. Overall, I believe that the Internet-only banks will be easy to use 4. I think it would be easy to learn using the Internet-only banks. 	(Venkatesh et al., 2003)
Perceived usefulness	<ol style="list-style-type: none"> 1. I think using the Internet-only banks in my banking would enable me to accomplish tasks more quickly. 	(Venkatesh et al., 2003)

(6 items)	<ol style="list-style-type: none"> 2. I think using the Internet-only banks would improve my banking performance. 3. I think using the Internet-only banks in my banking would increase my productivity. 4. I think using the Internet-only banks would enhance my effectiveness in banking. 5. I think using the Internet-only banks would make it easier to do my banking 6. I would find the Internet-only banks useful in my banking. 	
Intention (3 items)	<ol style="list-style-type: none"> 1. I intend to use the Internet-only banks. 2. I predict that I should use the Internet-only banks. 3. It is likely that I will transact with the Internet-only banks. 	(Venkatesh et al., 2003)
Attitude (4 items)	<ol style="list-style-type: none"> 1. Using the Internet-only banks is a good idea. 2. I like the idea of using the Internet-only banks. 3. Using the Internet-only banks is pleasant. 4. I dislike the idea of using the Internet-only banks. 	(Davis, 1989)
Innovativeness (7 items)	<ol style="list-style-type: none"> 1. Other people come to you for advice on new technology. 2. It seems your friends are learning more about the newest technology than you are. 3. In general, you are among the first in your circle of friends to acquire new technology when it appears. 4. You can usually figure out new high-tech products and services without help from others. 5. You keep up with the latest technological development in your areas of interest. 6. You enjoy the challenge of figuring out high-tech gadget. 7. You find you have fewer problems than other people in making technology work for you. 	(Parasuraman, 2000)
Values (21 items)	<ol style="list-style-type: none"> 1. Thinking up new ideas and being creative is important to him. He likes to do things in his own original way. 2. It is important to him to be rich. He wants to have a lot of money and expensive things 3. He thinks it is important that every person in the world be treated equally. He believes everyone should have equal opportunities in life. 4. It is important to him to show his abilities. He wants people to admire what he does. 5. It is important to him to live in secure surroundings. He avoids anything that might endanger his safety. 6. He likes surprises and is always looking for new things to do. He thinks it is important to do many different things in life. 7. He believes that people should do what they are told. He thinks people should follow rules at all times, even when no one is watching. 8. It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them. 9. It is important to him to be humble and modest. He tries not to draw attention to himself. 10. Having a good time is important to him. He likes to "spoil" himself. 11. It is important to him to make his own decisions about what he does. He likes to be free to plan and not depend on others. 12. It is very important to him to help the people around him. He wants to care for their wellbeing. 13. Being very successful is important to him. He hopes people will recognise his achievements. 14. It is important to him that the government ensure his safety against all threats. He wants the state to be strong so it can defend its citizens. 15. He looks for adventures and likes to take risks. He wants to have an exciting life. 16. It is important to him always to behave properly. He wants to avoid doing anything people would say is wrong. 17. It is important to him to get respect from others. He wants people to do what he says. 18. It is important to him to be loyal to his friends. He wants to devote himself to people close to him. 19. He strongly believes that people should care for nature. Looking after 	(Davidov et al., 2008)

	<p>the environment is important to him.</p> <p>20. Tradition is important to him. He tries to follow the customs handed down by his religion or his family.</p> <p>21. He seeks every chance he can to have fun. It is important to him to do things that give him pleasure.</p>	
Social influence (3 items)	<p>1. I would consider using Internet-only banks if someone personally recommended it</p> <p>2. When trying new technology, I trust my own instinct more than advice from others.</p> <p>3. Most people who are important to me think that I should use or continue to use Internet-only banks.</p>	(Venkatesh et al., 2003)
Experience (3 items)	<p>1. I commonly use lots of automated systems when dealing with other businesses.</p> <p>2. I do not have much experience using the Internet.</p> <p>3. I use a lot of technologically based products and services.</p>	(Meuter, 1999)
Trustworthiness (3 items)	<p>4. I think the Internet-only banks will be trustworthy</p> <p>5. I think the Internet-only banks will keep promises and commitments.</p> <p>6. I guess I will trust the Internet-only banks because they will keep my best interest in mind.</p>	(Barnes, 2009)
Perceived risk (5 items)	<p>1. I worry about giving my credit card number or logging in to bank websites</p> <p>2. When I send data to the bank website, I am worried that they will be intercepted and modified by unauthorised third parties like hackers.</p> <p>3. I think bank websites could provide my personal information to other companies without my consent.</p> <p>4. Sending data to the bank websites might increase the possibility of receiving spam.</p> <p>5. I think bank websites endanger my privacy by using my personal information without my permission.</p>	(Aldás-Manzano et al., 2009)
Compatibility (3 items)	<p>1. Using the Internet-only bank is compatible with my lifestyle.</p> <p>2. Using the Internet-only bank is completely compatible with my needs.</p> <p>3. I think that the Internet-only bank fits well with the way I like to get things done.</p>	(Moore & Benbasat, 1991)
Observables (3 items)	<p>1. I think I would have no difficulty telling others about the results of using the Internet-only bank.</p> <p>2. I believe I could communicate to others the outcomes of using the Internet-only bank.</p> <p>3. The results of using the Internet-only bank are apparent to me.</p>	(Moore & Benbasat, 1991)
Trailability (3 items)	<p>1. I have had opportunities to try out the Internet-only bank.</p> <p>2. I can use the Internet-only bank on a trial basis to see what it can do.</p> <p>3. It is easy to try out the Internet-only bank without a big commitment.</p>	(Moore & Benbasat, 1991)
Awareness (4 items)	<p>1. I have enough information about Internet-only banks services.</p> <p>2. I have enough information about the benefits of Internet-only banks.</p> <p>3. I have enough information of using Internet-only banks.</p> <p>4. I never have information about Internet-only banks.</p>	(Al Somali et al., 2009)

A2. Comparison between qualitative data collection methods

Method	Focus groups	Interviews	Questioners
Strengths	<ol style="list-style-type: none"> 1. Face-to-face interaction with participants. 2. Data collected in natural setting. 3. Facilitates immediate follow-up for clarification. 4. Good for documenting major events, crises, conflicts. 5. useful for describing complex interactions. 6. Facilitates discovery of nuances in culture. 7. Provides for flexibility in formulating hypotheses. 8. Provides context information. 9. Facilitates analysis, validity, checks, and triangulation. 10. Facilitates cooperation. 11. Obtains large amount of data quickly. 	<ol style="list-style-type: none"> 1. Face-to-face interaction with participants. 2. Useful in uncovering participants' perceptions. 3. Data collected in natural setting. 4. Facilitates immediate follow-up for clarification. 6. Useful for describing complex interactions. 6. Facilitates discovery of nuances in culture. 7. Provides for flexibility in formulating hypotheses. 8. Provides context information. 9. Facilitates analysis, validity, checks, and triangulation. 	<ol style="list-style-type: none"> 1. Facilitate analysis, validity, checks and triangulation. 2. Data easy to manipulate and categorise for analysis. 3. Easy and efficient to administer and manage. 4. Easy quantifiable and amenable to statistical analysis. 5. Easy to establish generalizability. 6. May draw on established instruments. 7. Expands access to distant participants.
Weakness	<ol style="list-style-type: none"> 1. Leading researchers to fixate on details (depends on user). 2. Possible misinterpretation because of cultural differences. 3. Difficult to replicate. 4. Data more affected by research presence. 5. Too artistic an interpretation undermines research. 6. Dependent on the "goodness" of initial research question. 7. Dependent on researcher's interpersonal skills. 	<ol style="list-style-type: none"> 1. Possible misinterpretation because of cultural differences. 2. Dependent on cooperation of key individuals. 3. Readily open to ethical dilemmas. 4. Difficult to replicate. 5. Data more affected by research presence. 6. Too dependent on participant openness/ honesty. 7. Too artistic an interpretation undermines research. 	<ol style="list-style-type: none"> 1. Leading researchers to fixate on details. 2. Possible misinterpretation due to cultural differences. 3. Requires technical training. 4. Dependent on the "goodness" of initial research question.
Source: Marshall and Rossman ((2006: 132-133).			



Muslim Consumers' Acceptance of Internet-only Banks

Dear Participant,

Thank you for agreeing to participate in this survey. This survey is aiming in collecting information about consumers' acceptance of Internet-only banks. This survey concentrates on Muslim consumers who are above 18 years old. This survey is conducted by a student at University of Strathclyde, as a requirement for PhD degree.

Internet-only banks refers to "Internet-based financial institution that offers deposit and withdrawal facilities, and other banking services, through automated teller machines or other devices, without having a physical (brick and mortar) walk-in premises".

The information which will be collected in this survey will be used only for academic research purposes, and they will not be revealed for other parties. All the information collected by the questionnaire will be kept confidential and you will not be identified when the research is published. All identified information will be removed or changed in the research findings. Therefore, I would be grateful if you answer all applicable questions as openly as possible.

I am very interested in your opinion about the Internet-only banks, whether you have used the service or not. Some of the questions of this survey may seem quite similar, however, I would appreciate that you answer all the questions. There is no right or wrong answer for the questions, it is only a way to get your opinion. The survey would not take around more than 20 minutes to complete.

Please complete the questionnaire as soon as possible and email to: badrea.al-oraini@strath.ac.uk

I am very grateful for your important contribution to this research. Thank you for your time.

Yours Sincerely, Badrea Al Oraini
Strathclyde university
Marketing department

As general instruction to fill this questionnaire please tick in only one box for each of the following statements.

In this section we would like to get some information describing you. Would you provide us with these information by answering the following questions:					
Age:	18-25	26-35	36-45	46-56	More than 56
Gender:	Male		Female		
Marital status:	Married		Divorced		
	Single		Widow / Widower		
In which part of Saudi Arabia do you live:					
How many years have you been living in Saudi Arabia:					
Less than 3 years			More than 10 years		
From 3 to less than 6 years			Since you have been born		
From 6 to less than 10 years					
Nationality (would you specify your nationality please):					
Religious denomination:					
Education:					
Less than high school		Graduate university			
High school		Post graduate			
Some graduate university					
Occupation:					
Education		Financial			
Management		Business			
Health care		No occupation			
Student					
Annual Income:					
Less than £10,000		£50,000-69,999			
£10,000-29,999		more than £70,000			
£30,000-49,999					
How many banks accounts do you have:					
One account or more in Islamic banks only		More than two bank accounts in Islamic banks and conventional banks			
Two bank accounts one in Islamic bank and the other with conventional bank.		One account or more in conventional banks only			
Type of account:					
Current Islamic account		Islamic investment account			
Current ordinary account		Saving account			
Would you give the name (names) of the bank (s) you have an account with:					

Are you using Internet banking services? Yes No

Please rank the following methods according to your preferences of using them in your banking transactions (in the UK):	Telephone banking	1	2	3	4	5
	ATM banking	1	2	3	4	5
	Internet banking	1	2	3	4	5
	Mobile banking	1	2	3	4	5
	Visit bank	1	2	3	4	5

This section of the survey asks about your previous experience in using technologies. Please indicate the extent to which you agree in the statement by ticking in the box that most appropriate.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I commonly use lots of automated systems when dealing with other businesses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not have much experience using the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use a lot of technologically based products and services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section of the survey asks about your awareness of Internet-only banks. Please indicate the extent to which you agree in the statement by ticking in the box that most appropriate.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I have enough information about Internet-only banks services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have enough information about the benefits of Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have enough information of using Internet-only banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I never have information about Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section ask about you perceptions of the ease of use of Internet-only banks, please respond to each statements by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I think my interaction with the Internet-only banks will be clear and understandable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that it is easy to get the system difficult to use to do what I want it to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, I believe that the Internet-only banks will be easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think it would be easy to learn to use the Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section ask about you perceptions of the usefulness of Internet-only banks, please respond to each statements by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I think using the Internet-only banks in my banking would enable me to accomplish tasks more quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think using the Internet-only banks would improve my banking performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think using the Internet-only banks in my banking would increase my productivity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think using the Internet-only banks would enhance my effectiveness on the banking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think using the Internet-only banks would make it easier to do my banking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would find the Internet-only banks useful in my banking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section ask about you intentions to use the Internet-only banks, please respond to each statements by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I intend to use the Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I predict that I should use the Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is likely that I will transact with the Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section ask about you attitudes toward Internet-only banks, please respond to each statements by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
Using the Internet-only banks is a good idea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like the idea of using the Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the Internet-only banks is pleasant.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I dislike the idea of using the Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section is about your willingness to try new products and services. Please indicate your agreement and disagreement by ticking in the box that describes your opinion the most.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
Other people come to you for advice on new technology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It seems your friends are learning more about the newest technology than you are.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, you are among the first in your circal of friends to aquire new technology when its appears.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You can usually figure out new high-tech products and services without help from others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You keep up with the latest technological development in your areas of interest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You enjoy the challenge of figuring out high-tech gadgets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You find you have fewer problems than other people in making technology work for you.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section of the survey asks about your perception of risk in Internet-only banks. Please indicate the extent to which you agree in the statement by ticking in the box that most appropriate.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I worry about giving my credit card number or login to bank websites.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I send data to the bank website, I am worried that they will be intercepted and modified by unauthorised third parties like hackers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think bank websites could provide my personal information to other companies without my consent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sending data to the bank websites might increase the possibility of receiving spam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think bank websites endanger my privacy by using my personal information without my permission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section of the survey asks about the compatibility of the Internet-only banks. Please indicate the extent to which you agree in the statement by ticking in the box that most appropriate.

Item statement	Strongly	Disagree	Disagree	Uncertain	Agree	Agree	Strongly
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	disagree		a little		a little		agree
Using the Internet-only bank is compatible with my lifestyle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the Internet-only bank is completely compatible with my needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think that the Internet-only bank fits well with the way I like to get things done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This section of the survey asks about the visibility of the Internet-only banks. Please indicate the extent to which you agree in the statement by ticking in the box that most appropriate.							
Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I think I would have no difficulty telling others about the results of using the Internet-only bank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe I could communicate to others the outcomes of using the Internet-only bank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The results of using the Internet-only bank are apparent to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section of the survey asks about the friability of the Internet-only banks. Please indicate the extent to which you agree in the statement by ticking in the box that most appropriate.							
Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I have had opportunities to try out the Internet-only bank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can use the Internet-only bank on a trial basis to see what it can do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easy to try out the Internet-only bank without a big commitment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you care that the Internet-only bank, which you may deal with, provides you with Islamic banking services?

1. Sure, it should be Islamic.
2. Uncertain.
3. It does not make different for me.

Based on the statements below, please identify the practices that most accurately reflect your personality by ticking in the appropriate box.					
Item statement	Never	Rarely	Some times	Often	Always
I make efforts to deepen my understanding of Islamic law.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel at peace when I hear the Qur'an recited.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I love my brothers and sisters in Islam as I love myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I try to understand the meanings of Qur'anic words/ verses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel sad when Ramadan ends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I advise others to perform obligatory prayer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I find time to recite the Qur'an even if I am busy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thank Allah SWT when beggars come to my house.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not expose the shortcomings of others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make effort not to display my personal good deeds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I usually discuss religious issues with my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make sure all my family members are following the Sunnah of our Prophet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I make ongoing efforts to increase the frequency of my non-obligatory (nafil) prayers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do worry if I cannot pay debt on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make efforts to have ablution (wudhu) at all times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will keep a person's identity hidden when I talk about them if they are not present.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not neglect my friends' dignity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I refer to religious scholars when I feel uncertain about Islamic rulings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Item statement	Never	Rarely	Some times	Often	Always
I like to help the poor without anyone knowing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make effort to internalise the Prophet's ethics in my daily life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel guilty when I hurt my parents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use public buses, walkways, etc. with care/respect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I respect all opinions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel happy when someone praises one of my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have started saving money for Hajj since my early days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer to do any form of labour than to beg.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make sure when I read the Qur'an, I understand its demands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to take advantage of opportunities to understand Islam with my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I look for opportunities to give charity (Sadaqa).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not enter a person's house until I am allowed to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make effort to make my guests feel as comfortable as possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I give Zakah every year (if I have completed nesab).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I work hard to achieve my goals to the top standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It is important that people listen to the opinion of the Muslim clergy in all their financial decisions:				
Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religiously acceptable:				
Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section asks about your preference for human interaction, please respond to each statements by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
Personal contact with employees makes banking enjoyable for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal attention by employees at my bank is not important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It bothers me to use a machine when I could talk to a live person instead.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section ask about others' influence on your banking decisions, please respond to each statement by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	strongly agree
I would consider using Internet-only banks if someone personally recommended it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

When trying new technology, I trust my own instinct more than advice from others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most people who are important to me think that I should use or continue to use Internet-only banks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section ask about your trust in the Internet-based banks, please respond to each statements by ticking in the boxes which best describe your agreement or disagreement with each statement.

Item statement	Strongly disagree	Disagree	Disagree a little	Uncertain	Agree a little	Agree	Strongly agree
I think the Internet-only banks will be trustworthy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think the Internet-only banks will keep promises and commitments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I guess I will trust the Internet-only banks because they will keep my best interest in mind.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Here we briefly describe some people. Please read each description and think about how much each person is or is not like you. Tick the box to the right that shows how much the person in the description is like you.

HOW MUCH LIKE YOU IS THIS PERSON?

Item statement	Very much like me	Like me	Some what like me	A little like me	Not like me	Not like me at all
Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to be rich. He wants to have a lot of money and expensive things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
He thinks it is important that every person in the world be treated equally. He believes everyone should have equal opportunities in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to show his abilities. He wants people to admire what he does.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
He likes surprises and is always looking for new things to do. He thinks it is important to do lots of different things in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
He believes that people should do what they are told. He thinks people should follow rules at all times, even when no one is watching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to be humble and modest. He tries not to draw attention to himself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having a good time is important to him. He likes to "spoil" himself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to make his own decisions about what he does. He likes to be free to plan and not depend on others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is very important to him to help the people around him. He wants to care for their wellbeing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being very successful is important to him. He hopes people will recognise his achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him that the government ensure his safety against all threats. He wants the state to be strong so it can defend its citizens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
He looks for adventures and likes to take risks. He wants to have an exciting life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him always to behave properly. He wants to avoid doing anything people would say is wrong.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to get respect from others. He wants people to do what he says.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to him to be loyal to his friends. He wants to devote himself to people close to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
He strongly believes that people should care for nature. Looking after the environment is important to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tradition is important to him. He tries to follow the customs handed down by his religion or his family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

He seeks every chance he can to have fun. It is important to him to do things that give him pleasure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Finally these following questions allow you to provide me with your general comments in Internet-only banks. I appreciate your answer of each question. please write as much or as little as you want in your answer:

Do you have any suggestions about how Internet-only banks can be improved?

Is there anything can be done to encourage you to use the Internet-only banks?

Is there any other reason that may discourage you from using Internet-only banks?

Thank you very much for your time, I appreciate your assistance.

قبول المستهلك للخدمات المصرفية عبر الإنترنت

عزيزي / عزيزتي المشارك في الاستقصاء

أشكر لكم موافقتكم على المشاركة في هذا الاستقصاء. يسعى هذا الاستقصاء إلى جمع بيانات عن قبول المستهلكين من المسلمين للبنوك المبنية على الإنترنت فقط. الفئة المستهدفة في هذا الاستقصاء هي عملاء البنوك من المسلمين ممن تجاوزت أعمارهم الـ 18 سنة ولديهم حسابات بنكية في أي من البنوك التجارية. و يقوم بإجراء هذا الاستقصاء احد طلبة الدكتوراه في تخصص التسويق بكلية إدارة الأعمال جامعه سترانكليد وذلك كمتطلب للحصول على الدرجة العلمية. لإغراض البحث أود عرض تعريف مختصر لمفهوم البنوك المعتمدة على الإنترنت فقط:

يشير بنك الإنترنت فقط إلى: "المؤسسة المالية المتواجدة على الإنترنت و التي توفر تسهيلات إيداع و سحب و خدمات بنكية أخرى، من خلال أجهزة الصراف الآلي أو أية أجهزة أخرى، دون الحاجة إلى وجود مادي (فروع) لهذه البنوك".

كما أود إحاطتكم أن أي معلومات سيتم جمعها بواسطة هذا الاستقصاء ستستخدم لإغراض البحث العلمي فقط. و لن يتم إطلاع أية أطراف أخرى عليها.

لقد تم تصميم هذا الاستقصاء ليكون مختصراً حتى لا يأخذ الكثير من وقتكم في تعبته. كما أن البيانات التي سيتم جمعها من خلاله ستعامل بسرية تامة ولن يتم عرض أية بيانات تدل على شخصية المستقصى منه عند عرض النتائج النهائية للدراسة. لذا ساكون شاكرة و مقدره لكم إجابتكم عن جميع الأسئلة بحرية و دون تردد.

كذلك أود أن أشير إلى أهمية رأيكم في البنوك المبنية على الإنترنت سواء سبق لكم تجربة هذا النوع من الخدمة أو حتى لو لم يسبق لكم استخدامها إطلاقاً. بعض أسئلة الاستبيان قد تبدو متشابهة ومع ذلك اقدر لكم إجابتكم على جميع الأسئلة. لا توجد إجابة صحيحة أو خاطئة للأسئلة إنها فقط طريقة للوصول إلى رأيكم. الاستقصاء سيأخذ ما يقارب 20 دقيقة لإتمامه.

شاكرة و مقدره لكم مشاركتكم في هذا الاستقصاء للرأي

ملاحظة عامة: لتعبئة الاستبيان أرجو تحديد اختيار واحد فقط لكل عبارة من عبارات الاستبيان في كل سؤال.

الباحثة: بدرية العريني
جامعه سترانكليد- بريطانيا
البحث تحت اشراف: د.ستيفن تاق
للتواصل مع الباحثة: badrea.al-oraini@strath.ac.uk

يهدف هذا الجزء من الاستبيان إلى الوصول إلى بيانات وصفية عنكم. أرجو منكم الإشارة إلى العبارة التي تصفكم لكل سؤال مما يلي:

في أي من الفئات العمرية أنت:	من 18 - 25	من 26 - 35	من 36 - 45	من 46 - 55	أكبر من 55
الجنس:	<input type="checkbox"/> ذكر	<input type="checkbox"/> أنثى			
ماهي حالتك الاجتماعية:	<input type="checkbox"/> أعزب/ أعزباء	<input type="checkbox"/> متزوج/ متزوجة	<input type="checkbox"/> مطلق/ مطلقة	<input type="checkbox"/> أرمل/ أرملة	
منذ متى وأنت تعيش في المملكة العربية السعودية:	<input type="checkbox"/> أقل من 3 سنوات	<input type="checkbox"/> أكثر من 10 سنوات			
	<input type="checkbox"/> من 3 إلى أقل من 6 سنوات	<input type="checkbox"/> منذ الولادة	<input type="checkbox"/> من 6 إلى أقل من 10 سنوات		
في أي منطقة من مناطق المملكة العربية السعودية تعيش (على سبيل المثال: الرياض، القصيم، حائل، الأحساء، مكة المكرمة، أبها،... الخ)					
ماهي جنسيتك					
ماهو مستوى تعليمك:	<input type="checkbox"/> أقل من الثانوي	<input type="checkbox"/> بكالوريوس			
	<input type="checkbox"/> ثانوي	<input type="checkbox"/> ماجستير أو دكتوراه			
	<input type="checkbox"/> دبلوم ما دون الجامعي				
ماهي وظيفتك:	<input type="checkbox"/> تعليمية	<input type="checkbox"/> مالية			
	<input type="checkbox"/> إدارية	<input type="checkbox"/> رجل / سيدة أعمال			
	<input type="checkbox"/> صحية	<input type="checkbox"/> لا توجد وظيفة			
	<input type="checkbox"/> طالب	<input type="checkbox"/> أخرى حدد			
ماهو مستوى دخلك السنوي:	<input type="checkbox"/> أقل من 75.000	<input type="checkbox"/> من 200.001-275.000			
	<input type="checkbox"/> من 75.001-125.000	<input type="checkbox"/> أكثر من 275.000			
	<input type="checkbox"/> من 125.001-200.000				
نوع الحسابات البنكية التي لديك:	<input type="checkbox"/> حساب جاري	<input type="checkbox"/> حساب استثماري لدى بنك غير إسلامي			
	<input type="checkbox"/> حساب جاري إسلامي	<input type="checkbox"/> حساب استثماري لدى بنك إسلامي			
	<input type="checkbox"/> حساب ادخاري	<input type="checkbox"/> حساب آخر حدد			
هل يمكن ذكر أسماء البنك أو البنوك التي تتعامل معها:					

هل سبق لك ان استخدمت الخدمات المصرفية التي يقدمها بنكك عبر الانترنت؟ نعم q لا q

بناء على تفضيلك لاستخدام كل من أساليب الخدمات البنكية، أرجو ترتيب أولوية استخدامها لها.	الخدمة	1	2	3	4	5
1 = الأكثر تفضيل 5 = الأقل تفضيل	الهاتف المصرفي	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	الصراف الآلي	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	الخدمات المصرفية عبر الانترنت	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	الخدمات المصرفية عبر الجوال	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	زيارة فرع البنك	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

يسعى القسم التالي من الاستبيان إلى التعرف على خبرتك في التعامل مع الأنظمة التقنية، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يسعى القسم التالي من الاستبيان إلى التعرف على المعلومات المتوفرة لديك عن على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
العبارة						
لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يسعى هذا القسم من الاستبيان إلى التعرف على توقعاتك فيما يخص سهولة استخدام البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
العبارة						
لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يسعى هذا القسم من الاستبيان إلى التعرف على مدى إدراكك لفائدة استخدام البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
العبارة						
لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	استخدام البنوك على الانترنت فقط سيساعدني في زيادة إنتاجيتي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	استخدام البنوك على الانترنت فقط سيحفز كفاءتي في البنكية.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	استخدام البنوك على الانترنت فقط سيجعل من السهل على القيام بأعمال البنكية.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	سأجد البنك على الانترنت فقط مفيدة لأعمالي البنكية.

يسعى هذا القسم من الاستبيان إلى التعرف على عزمك استخدام البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
أنا عازم على استخدام البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أنا أتوقع انه يجب علي ان استخدم البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
انه من المحتمل ان اقوم بعمليات ماليه بواسطة البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

يسعى هذا القسم من الاستبيان إلى التعرف على مشاعرك تجاه البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
استخدام البنوك على الانترنت فقط هي فكرة جيدة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أحببت فكرة البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
استخدام البنوك على الانترنت فقط مبهجة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أنا لا أحب فكرة البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

يسعى هذا القسم من الاستبيان إلى التعرف على رغبتك في تجربة كل جديد، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
يأتي اليك الآخرون طلبا للنصيحة فيما يخص التقنية الحديثة.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يبدو أن أصدقائك يتعلمون أكثر عن التقنية الأحدث أكثر منك.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
بشكل عام، أنت من ضمن الأوائل من دائرة أصدقائك تقنتي التقنية الحديثة حال ظهورها.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أنت غالبا تعرف كيف تستخدم المنتجات و الخدمات التقنية بدون مساعدة من الآخرين.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أنت متابع للتطورات التقنية الأخره في مجال اهتمامك	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أنت تستمتع بالتحدي لمعرفة عمل الأدوات عالية التقنية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	تجد ان لديك مشاكل اقل من الاخرين في تطويع التقنية لصالحك.
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يسعى هذا القسم من الاستبيان إلى التعرف على إدراكك للمخاطرة المرتبطة بالتعامل مع البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
اشعر بالقلق حيال إعطاء رقم بطاقتي الائتمانية أو الدخول على موقع البنك على الانترنت	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
عندما أرسل بيانات إلى موقع البنك على الانترنت أكون قلقا أن تعترض أو تعدل بواسطة طرف ثالث غير مصرح له مثل الهكرز.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
اعتقد أن موقع البنك على الانترنت يمكن أن يقدم معلوماتي الشخصية إلى شركات أخرى بدون موافقتي	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الخدمات المصرفية عبر الانترنت تزيد احتمالات استقبال البريد الغير مرغوب فيه.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
اعتقد أن موقع البنك على الانترنت يعرض خصوصيتي للخطر وذلك باستخدام معلوماتي الشخصية دون إذن مني.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

يسعى هذا القسم من الاستبيان إلى التعرف على توافق البنوك على الانترنت مع نمط حياتك. لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
استخدام البنوك على الانترنت فقط يتوافق مع أسلوب حياتي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
استخدام البنوك على الانترنت فقط يتوافق تماما مع احتياجاتي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
اعتقد ان البنوك على الانترنت فقط تتطابق مع الطريقة التي اريد ان انجز بها الاشياء.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

يسعى هذا القسم من الاستبيان إلى التعرف على مدى الوضوح عند التعامل مع البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
اعتقد اني لن تكون لدي صعوبة في اخبار الآخرين عن نتائج استخدامي البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
انا اؤمن انه بإمكانني ان اوصل للآخرين نتائج استخدامي البنوك على الانترنت فقط.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
نتائج استخدامي البنوك على الانترنت فقط واضحة لي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

يسعى هذا القسم من الاستبيان إلى التعرف على إمكانية تجربة البنوك عبر الانترنت. لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:

العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق	أوافق بشدة
لقد حظيت بفرصة تجربة البنوك على الانترنت فقط	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يمكنني استخدام البنوك على الانترنت فقط بصورة تجريبية لارى ما يمكنها القيام به	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
انه من السهل تجربة البنوك على الانترنت فقط بدون التزام كبير.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

هل يهكم أن تكون الخدمات المصرفية المقدمة عبر الانترنت فقط، و التي يمكن أن تتعامل معها، توفر لك خدمات مصرفية إسلامية:

1. بالتأكيد، لابد أن تكون إسلامية.
2. غير متأكد.
3. لا يمثل ذلك فرق بالنسبة لي.

العبارة	لا أقوم بذلك مطلقاً	أقوم بذلك نادراً	أقوم بذلك أحياناً	أقوم بذلك غالباً	أقوم بذلك دائماً
أرجو منك تحديد مدى التزامك في تطبيق ما ورد بكل عبارة من العبارات التالية:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أجتهد لتعميق فهمي للقانون الإسلامي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اشعر بالسلام عندما استمع الى تلاوة القران.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أحب إخواني و أخواتي في الإسلام كما أحب نفسي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	احاول فهم معاني كلمات و آيات القران الكريم عند قراءته
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اشعر بالحزن عندما ينتهي رمضان.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ادعو الآخرين للقيام بالصلاة المفروضة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أوجد وقت لتلاوة القران حتى عندما أكون مشغولاً.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	احمد الله سبحانه و تعالى عندما يأتي متسول إلى بيتي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	لا أفشي عيوب الآخرين.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ابدل مجهود لعدم إظهار أعمال الخيرية.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اناقش بشكل متكرر الامور الدينية مع اصدقائي
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أؤكد من أن جميع أفراد أسرتي يتبعون تعاليم (سنة) رسول الله (صلى الله عليه و سلم).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أجتهد باستمرار للقيام بصلاة النافلة بشكل متكرر.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أقلق عندما لا أستطيع سداد ديوني في وقتها.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أجتهد للوضوء في كل الأوقات.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	سأحتفظ بهوية الشخص الذي أتحدث عنه في غيابة مخفية.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	لا أخط من كرامة اصدقائي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أشير إلى الأشخاص ذوي المعرفة عندما لا أكون واثق بشأن قانون إسلامي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أحب مساعدة الفقراء بدون أن يعرف أحد عن ذلك.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ابدل مجهود للالتزام بميثاق أخلاقيات النبي (صلى الله عليه و سلم) في حياتي اليومية.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اشعر بالذنب عندما أؤذي أي من والدي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	استخدم المواصلات العامة، الطرق... الخ باحترام و اهتمام.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	احترم كافة الآراء.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اشعر بالسعادة عندما يقول شخص ما كلام جميل عن احد اصدقائي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	بدت ادخر المال للحج في سن مبكرة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أفضل القيام بأي عمل على أن أتسول.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أؤكد عند قراء القران أنني أفهم أوامره.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أحب أن انتهاز الفرصة لفهم الإسلام مع أسرتي.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ابحث عن الفرص لإعطاء الصدقة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	لا ادخل منزل شخص إلا عندما أدعى لذلك.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ابدل مجهود لجعل ضيوفي يشعرون بالراحة قدر المستطاع.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أخصص جزء من مالي سنويا للزكاة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أعمل بجد لانجاز أهدافي في الوقت المحدد.

من المهم أن يستمع الناس لرأي رجال الدين في كافة قراراتهم المالية:

لا أوافق بشدة

لا أوافق

غير متأكد

أوافق

أوافق بشدة

سأرفض القبول بالبنوك على الانترنت فقط إن أخبرني رجل دين موثوق بعدم شرعيتها:

لا أوافق بشدة

لا أوافق

غير متأكد

أوافق

أوافق بشدة

يسعى هذا القسم من الاستبيان إلى التعرف على مدى رغبتك في التعامل مع مقدمي الخدمة عند إنجازك للخدمات المصرفية، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق بشدة
الاتصال الشخصي مع موظفي البنك يجعل الأعمال المصرفية ممتعة لي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الاهتمام الشخصي من موظفي بنكي مهم بالنسبة لي	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يزعجني استخدام الآلة في حين بإمكانني التحدث مع شخص مباشرة بالمقابل.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يسعى هذا القسم من الاستبيان إلى التعرف على مدى تأثرك برأي الآخرين عند اختيارك البنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق بشدة
سأفكر في استخدام البنوك الانترنت إذا قام شخص بالتوصية بها لي بشكل شخصي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
عند تجربة تقنية جديدة، أنا أتق بغريزتي أكثر من نصيحة الآخرين.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أغلب الناس المهمين لي يعتقدون انه يجب علي استخدام أو أن استمر في استخدام البنوك على الانترنت فقط.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
يسعى هذا القسم من الاستبيان إلى التعرف على ثققتك بالبنوك على الانترنت فقط، لذا أرجو منك الإشارة في المربع المناسب لكل من العبارات التالية:						
العبارة	لا أوافق بشدة	لا أوافق	لا أوافق قليلا	غير محدد	أوافق قليلا	أوافق بشدة
البنك الذي يقدم خدماته على الانترنت فقط جدير بالثقة.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
البنك الذي يقدم خدماته على الانترنت فقط يحافظ على وعوده و التزاماته.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أنا أتق بالبنك الذي يقدم خدماته على الانترنت فقط لأنه يبقي مصلحتي في الاعتبار.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

فيما يلي شرح مختصر لبعض الأشخاص. أرجو منك قراءه كل عبارة و التفكير إلى أي مدى قد يشبهك أو لا يشبهك هذا الشخص. ضع إشارة في المربع المناسب لكل عبارة من العبارات التالية.

إلى أي مدى يشبهك هذا الشخص؟

العبارة	يشبهني كثيراً	يشبهني	يشبهني بعض الشيء	يشبهني قليلاً	لا يشبهني	لا يشبهني أبداً
التفكير بإفكار جديدة و أن يكون خلافاً مهم له. هو يحب أن يقوم بالأشياء بطريقته الأصلية الخاصة.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
من المهم له أن يصنع قراراته الخاصة بخصوص ما يقوم به. هو يحب أن يكون حراً في التخطيط ولا يعتمد على أحد.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
هو يعتقد أن من المهم أن يعامل كل شخص في العالم بعدالة. هو يؤمن أن الكل يجب أن يحصل على فرصة عادلة في الحياة.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
من المهم له أن يستمع إلى أشخاص مختلفون عنه. حتى عندما يختلف معهم، هو لا يزال يرغب في فهمهم.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
هو يؤمن بقوة انه يجب على الناس أن يعتنوا بالطبيعة. العناية بالبيئة مهمة له.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
من المهم جدا له مساعدة الناس من حوله. هو يرغب في العناية بالرفاهة.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
العبارة	يشبهني كثيراً	يشبهني	يشبهني بعض الشيء	يشبهني قليلاً	لا يشبهني	لا يشبهني أبداً
من المهم له أن يكون ذو ولاء لأصدقائه. هو يرغب في تكريس نفسه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	للناس المقربون له. من المهم له ان يكون متواضعا و محتشما. هو يحاول ان لا يجذب الانتباه الى نفسه.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	التقاليد مهمة له. هو يحاول ان يتبع العادات التي وصلته من دينه و عائلته.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	هو يؤمن انه يجب على الناس ان يقوموا بما طلب منهم. هو يعتقد ان على الناس ان يتبعوا القواعد في كافة الاوقات، حتى ولو لم يكن هناك من يراقب.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	من المهم له دائما ان يتصرف بشكل ملائم. هو يرغب في تجنب ان يقوم باي شيء قد يقول الناس انه خاطئ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	من المهم له ان يعيش في محيط آمن. هو يتجنب اي شيء قد يهدد سلامته.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	من المهم له ان تؤمن الحكومة سلامته ضد اي مخاوف. هو يريد ان تكون الحكومة قوية حتى تدافع عن مواطنيها.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	من المهم له ان يكون غنيا. هو يرغب ان يحصل على الكثير من المال و الاشياء الثمينة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	من المهم له ان يكسب احترام الاخرين. هو يريد ان يقوم الناس بما يقول لهم.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	من المهم له ان يظهر قدراته. هو يريد الناس ان يحترموا مايقوم به.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ان يكون ناجحا جدا مهم له. هو يأمل ان يلاحظ الناس إنجازاته.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	قضا اوقات ممتعه مهم له. هو يحب ان يدلل نفسه.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	هو يبحث عن كل فرصة ليحصل على المتعة. ان من المهم له القيام بالاشياء التي تعطيه المتعة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	هو يحب المفاجأة و يبحث دائما عن اشياء جديدة للقيام بها. هو يعتقد ان من المهم القيام باشياء مختلفة كثيرة في الحياة.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	هو يبحث عن المغامرة و يحب اخذ المخاطرة. هو يريد ان يعيش حياة مثيرة.

ماهي اقتراحاتك للطريقة التي يمكن من خلالها تطوير الخدمات المصرفية على الانترنت فقط؟

.....

.....

ماهي الأشياء الممكن فعلها لتشجيعك على استخدام الخدمات المصرفية على الانترنت فقط؟

.....

.....

ماهي الأسباب التي قد تجعلك متردد في استخدام الخدمات المصرفية على الانترنت فقط؟

أشكر لكم تعاونكم معي في تعبئة الاستبيان

Appendix B

Appendix B: Qualitative study

B1: English consent form



I, the undersigned.....certify that I freely participate to the Research project entitled “Consumers’ Acceptance of Internet-only Banks”.

The nature of the

The research project is as follows:

1. The project aims to investigate the factors that may influence consumers’ acceptance of Internet-based banks in general and how these factors may differ when the bank is related to consumer religious belief.
2. The interview aims to obtain insights about the main research issues. It is expected to last no longer than one hour, and with the interviewee’s consent, will be tape recorded.
3. The interviewee has the right to refuse to answer any question, and may terminate the interview at any time without providing justification.
4. To protect participants, the following steps will be taken with regards to anonymity and confidentiality of information:
 - a. In research papers the identity of the participants in the interviews will be kept anonymous. Different names will be used to refer to the participant in the coding.
 - b. Only the researcher will have access to the interview tapes and transcripts.
 - c. Once the interview is transcribed, and if the interviewee requests, a copy of the transcript can be sent. The interviewee will be given four weeks to communicate to the researcher any transcript concerns or modifications. Once this four week period is over, it will be assumed that the interviewee agrees with the transcript.
 - d. When a draft of a research paper is produced, and if the interviewee requests it, a copy will be sent for the interviewee to review.
 - e. The original tapes will be destroyed after the Ph.D. has been awarded, as will any transcripts remaining.
5. Research papers and/or presentations will be written from the information gathered, and eventually published in academic and/or practitioner journals.
6. A summary of the research will be sent to participants upon request.

The research project is under the responsibility of Badrea Al Oraini, PhD Student at the University of Strathclyde in Glasgow. Supervisors are Dr Stephen Tagg and Dr Kathy Hamilton

Read and approved on.....Participant’s signature.....

Researcher’s signature.....

B2: Arabic Consent form



أنا الموقع / الموقعة أدناه:..... أؤكد أنني شاركت بالبحث المعنون : "قبول المستهلكين للخدمات المصرفية المعتمدة كلياً على الإنترنت حالة البنك الإسلامي المعتمد كلياً على الإنترنت بكامل إرادتي.

طبيعة البحث:

- البحث يهدف إلى التعرف على العوامل التي قد تؤثر على قبول المستهلكين للبنوك المعتمدة على الإنترنت كلياً بوجه عام. وكيف يمكن أن تختلف هذه العوامل عندما يتعلق البنك بمعتقد المستهلك الديني.
- تهدف المقابلة إلى الوصول إلى فهم للعناصر الأساسية للبحث. و يتوقع أن لا تستمر المقابلة لأكثر من ساعة. و سيتم تسجيل المقابلة بناء على موافقة المُقابل.
- من حق المُقابل رفض الإجابة على أي سؤال كما أن من حقه إلغاء المقابلة في أي وقت دون أبداً أي سبب لذلك.
- لحماية خصوصية المشارك في المقابلة. سيتم اتخاذ الخطوات التالية. فيما يخص حماية سرية البيانات و عدم معرفة شخصية المُقابل:

في أوراق البحث ستبقى هوية المُقابل غير معروفة. اسم آخر سيتم استخدامه للإشارة إلى المشارك في المقابلة عند الإشارة إلى البيانات التي تم جمعها من المقابلة.

فقط الباحثة ستكون لديها صلاحية الإطلاع على تسجيل المقابلة الصوتية و ما يرتبط بها من بيانات من حق المُقابل أن يطلب نسخة من محتويات المقابلة بعد تفرغها كتابة وذلك للإطلاع عليها قبل أن تستفيد منها الباحثة. و سيعطى المُقابل مدة اربعة اسابيع لأبداً أي ملاحظات يريدتها على محتوى المقابلة. في حالة لم يصل الباحثة أي رد من المشارك في المقابلة في حدود الاربعة اسابيع ستفترض الباحثة ان المُقابل موافق على ماورد في المقابلة ويكون من حق الباحثة الاستفادة من محتويات المقابلة قبل تعديلها.

بعد الانتهاء من انجاز نسخه اولية من البحث، يمكن للمُقابل ان يطلب نسخه من البحث للاطلاع عليها ومراجعتها ان رغب في ذلك. سيتم التخلص من التسجيل الأصلي للمقابلة واي نسخ مكتوبة منها بمجرد حصول الباحثة على درجة الدكتوراة بإذن الله تعالى.

- سيتم كتابة أو عرض أوراق بحث من واقع البيانات التي تم جمعها من المقابلة و سيتم نشرها في الدوريات الأكاديمية و العلمية.
- يمكن ارسال نسخة من ملخص البحث للمشارك في المقابلة بناء على طلبه

هذا المشروع البحثي تحت مسؤولية: بدرية العريني، طالبة دكتوراة في جامعة سترانكلويد في مدينة جلاسكو ببريطانيا. المشرفون على البحث هم: د.ستيفن تاج و د.كاثي هملتون

تمت الموافقة بتاريخ..... توقيع المشارك بالمقابلة.....

توقيع الباحثة.....

B3 Sample of the in-depth interview(date: 23-1-2010)

When i first meet Z it was in XXXX mosque. In the Friday praier. She was sitting in the back along with other lady and when they call for prayer Zand the lady move to front and stand beside me for prayer. Actually the lady who was standing beside Z, she was the one who make me notice them. She was not praying in the right way. So after we finished praying I have turned toward her and asked her if she is new to Islam and her answer was yes. After that I asked Z if she is the daughter of the lady and her answer was not. Then we start talking then I asked her if she is willing to participate in my research and she accept, we exchange email addresses, and after is ended her my first email telling her about my research and that it is involved in banking Z was little saspeusios I guess and she asked for more details about my research so I have send her all the information she needed and all her right as a participant. It was the first time an interviewee asked me a lot of questions about why and where I will use the information. With all the interviewees from Arabic background they do not have any problem talking and expressing their ideas, but Z was this kind of a person who gives short answers and did not elaborate in her attitudes and feelings about things. She is much closed and was not very interested in giving much information.

Z is an XXXX, she is working in XXXX. Her mother is XXX and her father is originally from XXX. She is newly graduating and she is just starting her career. She look independent financially she has her own car and her financial accounts. But when z stated to talk I realise that even she look British in appearance and in her accent but she think like most typical Muslim lady in Saudi Arabia, her mother, father and older brother were there as she describe her decision-making process. Like all Muslims Z believes in the important of the family in her life, maybe that is the reason she involved her family in most of her decisions.

Even though z think like other Muslim ladies, she did not look as a typical Muslim lady and she realise that. She ware a trouser with a jacket which rich in her knees, instead of wearing a veil she was wearing a wall hat that cover her hair but at the same time did not reveal her identity as a Muslim. I do not know why I felt that she may feel shy of her identity, or she has face some problem because of her Islamic identity and that is why she was trying not to expose that identity by wearing hijab. Not just that but I have that feeling that her father is trying to maintain her Islamic religious identity but in other hand the environment surrounding her is influencing her in negative way. As I understand from her that she have been to hajj two years ago she went there with her father and older brother. She also been to XXX along with one of her XXX friend and she and her friend wear negab there and she did not have problem with that.

I get this impression that she is trying to be real Muslim in participating in Islamic social and volantirary activities, as she mentioned she is a member on the Islamic centre in XXX. In other hand, she told me in the beginning of the interview that she needed to leave early because she was invited to a birthday party. Birthdays parties are not an Islamic tradition actually highly religious Muslims will not accept an invite to such a party because they believe it is un-Islamic.

Transcription of the interview

Researcher : do you consider yourself as a religious person?

ZA: aaa.. ya

Researcher: why?

ZA: because I practise my prayers five times a day. I practise generally the five pearlier of Islam. Researcher, I think religion is my priority of my life. So my life is all (...) ended.

Researcher: at any bank do you have account?

ZA: at the XXX.

Researcher : XXX, why you chose this bank?

ZA: because when I was three years old my mom had a bank account in that bank. She said do you like to have a save account and I have saving account in it I was three years old.

Researcher: so your mother, she is the one who make you take that decision?

ZA: yah, ya. More or less, ya.

Researcher: what about your father?

ZA: no my dad had an account with separate account.

Researcher: do you often visit you bank branch?

ZA: I do not go to bank now. I do online banking, so I don't visit the branch.

Researcher: when was the last time you visit the branch?

ZA: maybe, I need to get some money to travel abroad, so that was maybe six months ago.

Researcher: do you know about Islamic banking?

ZA: not much actually. I know that it is. Interest I guess is haram so it avoids it. And it uses other methods to make money. I think for example paying fees or something like that.

Researcher: do you know the other differences between the Islamic banking and conventional banking?

ZA: the only difference that I know is interest there is no interest with Islamic banking.

Researcher: this is the only difference, have not you think about other differences like what kind of investments they are engaged with?

ZA: I have not, I have not thought about it. Actually (laugh). I spouse I have been involved with work I have not thought that much about finance until recently when I have my own. I started working especially I do not know much about it. I know mortgages but do not know about that. Researcher start reading i do not know about it before.

Researcher: now when you get your own income. Are you thinking of switching for Islamic banking? If you know the conventional banks are involved with prohibited investments?

ZA: I do not think very much in that. I do not think about that interest (...) that me having both accounts not saving. I specifically asked for that bank of Scotland. So really I do not think to go for Islamic banking I already had a zero interest account so.

Researcher: so in your opinion that is the only difference between Islamic and conventional banks?

ZA: that is the only difference.

Researcher: but there are other differences like the investments.

ZA: ya that are a different I can tell.

Researcher: why you are not interested in Islamic banking?

ZA: It is just I have to be any attention that has been here any Islamic banking.

ZA: ya,

Researcher: does this mean you have not received any information about Islamic banks. or see any advertisement about them?

ZA: I have never received any brochures. I have never seen any advertisement in any Islamic banking. The only time I have seen it is that when I have been in Islamic events and maybe they had some brochures about Islamic banking. But I have not really looked at them, so (she laughed).

Researcher: so you get the information, but you were not interested in it?

ZA: will I have not been getting any information I seen them at (...) when I was walking around at Islamic events. I saw brochures in Islamic banking and finance but I have not really picked up the leaflet and read it (...). It seems that Islamic banking is a better way to do but it just i don `t know enough about them.

Researcher: so you think they did not do a lot to inform people about Islamic banking?

ZA: maybe, ya, they should make more.

Researcher: what may make you switch to Islamic banking?

ZA: if I was sure that the bank was going to be good for my money, if it going to be save. If it is accessible easy to be access for example, it had online banking (...) if amm (.) yes the security maybe a big thing. The ease of access and (.) I will try to think what else. Just I suppose obviously the Islamic is the big thing they actually they do, if they are actually Islamic.

Researcher: how often you use Internet banking?

ZA: maybe every two or three weeks.

Researcher: what kind of activities you usually do with it?

ZA: check my statements and pay my credit cards fees if any, I transfer money if purchasing from my account to my current account did that online.

Researcher: when you first use Internet banking you did it all by yourself? Or someone help you did it?

ZA: I did it myself. I follow the instructions online.

Researcher: have you used any other e-banking?

ZA: no, just online.

Researcher: you have not use phone banking or ATM machines?

ZA: ya, I use the ATM machines. I can't get money from computer. I have start by ATM then phone banking then online banking.

Researcher: when you start using the ATM, you just do it by yourself or someone helped you?

ZA: I have just followed the instructions in using it. It is just start like my mom and dad used it and then I get my own card I start using it, just imitating basically.

Researcher: do you feel that Internet banking is secured?

ZA: ya, I would like to think it is secure, I think there are probably there are some problems but ya i think it is secure.

Researcher: what make you think it is secure?

ZA: amm. Oh, my older brother used it and he trusted it for years and then i was worried in starting to use it and then he say it is handy so handy it safe and i started using it. Amm, it is different it is really useful and it is very easy and i have not face any problem with it. So ya.

Researcher: have you heard of Internet-based banks before?

ZA: no i do not.

Researcher: the Internet is the only way you can get to your bank information and open you account.

ZA: no, I do not think that would appeal to me, because i would like to either visit branch that i can go for it when i need to.

Researcher: what make you interested in visiting branch?

ZA: because for example i have been applying for found for something if i have been calling for over draft or something i need to go and speak for someone and say why this happened or even just discuses my banking it is nice to have human being i can talk to and i can (...) hugely i hate technical.

Researcher: have not you face problems with employees in your bank?

ZA: no

Researcher: you do not have to wait for a long time to get to.

ZA: the bank is very good actually RBS is very good bank. Actually, there are a lot of royal banks in Glasgow. It is easy. It not always busy I do not have to wait for very long.

Researcher: so you are not interested on Internet-based banking, because of social interaction you talk to people there and that make you more secure?

ZA: ya, I feel less secure online then I do in my branch.

Researcher: if i say to you that there is an I salami bank which is Internet-only and it is the only and it is really Islamic bank and it is the only way to get to the Islamic banking, are you willing to go for it.

ZA: i would looking for it, but the fact it is not got a branch i don't think. I would not be interested because i would like to know that there is an option.

Researcher: have you heard of the word 'fatwa'?

ZA: oh, ya. I do listen to (...) i use to go to shikh in Glasgow, but i don't look for specific fatwa.

Researcher: when you decided to follow any one who give you fatwa what are the basic things you concentrated on?

ZA: i suppose where is the 'fatwa' come from. Where is the scholar was who said the 'fatwa'. How i suppose how strong their background their knowledge and their. Ya i suppose look to myself get considerations from my own religious scholars like the shikh i said.

Researcher: if they told you that you should not put your money at RBS because it is prohibited and it is preferable if you have an access to Islamic banking even if it only Internet banking, are you going to follow them?

ZA: ya, i would follow him. Ya if he said it is prohibited.

Researcher: and you will forget about the risk?

ZA: probably, ya. Because i know he is very clever and he is, you know he is British born Muslim and he understand and he knows the challenges in both things and if he trust this bank i would trust his preferences.

Researcher: ok, and if the same person told you that Internet banking is very risky.

ZA: aha

Researcher: and you should not go for Internet banking. And you have to go for branch banking only. Are you going to listen to him?

ZA: that depends. Because when he say Internet banking is risky he maybe he did not went on the same experience. I would say i will not stop using it just because some one like he is not willing to take the risk (she laugh). Yes.

B4 Some field notes in regards to focus group and online forum interview.

From female focus group, I realise the following:

1. Some of the females refer to the religiosity as a matter of following all the codes of Islamic religion in appearance, ethics, values, and act. While other females, refer to a religious person as a row model for others. However, they realise that it is very hard for someone to be a religious person. Furthermore, there were some contradictions among the group of the important for appearance in individual religiosity.
 2. Trust is an important issue in the internet banking. This trust could be created through someone else experiences in Internet banking, especially those who are relative. Moreover, Bank reputations are one of the issues that may create trust toward Internet based Islamic banks.
 3. Both trust and bank reputations have an influence on consumers' willingness to consider adopting internetInternet based Islamic banks.
 4. There are high concerns in regard of being Islamic bank in order to adopt Internet banks.
 5. Bank physical appearance is important for Saudi females, even if it is in its minimum. This physical appearance is important to create trust and to decrease the risk not for the important for human interactions in their opinion.
 6. There was some fogginess in understanding the meaning of virtual banks as terminology. Some of the females realise it as allusions, deceive, and unreal. As the translation to Arabic of such term was not so easy. Therefore, the researcher realised the need to change the term virtual to Internet based to make it more clearly for interviewees.
 7. Some questions have arisen during the focus group, such as:
 - Why Saudi females more willing to accept phone banking than internet banking? Is it, the availability of access to phone in comparison to Internet? Especially, for Saudi females living in Saudi Arabia.
 - What restrict Saudi females to get an access to the Internet?
 - Decision issue who has the right to make the decision to apply for Internet, especially DSL line.
 - Religious and cultural issues, in what is allowed and what is prohibited for females, and the role of male guardians in females' life.
 - Females' un-ability or lack of skills to use a computer compared by their male counterpart. Especially that computer study has been newly introduced to female education curriculum in high school.
- In regard to the focus group discussions, what was interesting is even there were females with different levels of education, still all of them agree that they rely on male relative to help them doing online and sometimes phone banking. And they refer to such an issue as usually practice with no feeling of impressments. When it comes to ATM, they agree that they use it themselves only for money withdraw, but they usually asked for male relative help when they need to transfer or deposited money or pay bills.
- the question is, why trust was existing when we talk about ATM or phone banking, but it gets less when we mention internet banking?. Is it because they have less knowledge about this new medium, is it related to the poor ability in using the computer and how to operate the bank website?
- All females realise the convenience of using internet banking.
- Some of the females realise the religious advantages of using the internet banking, especially for female.

How they perceive religious person, and religiosity

“Religious person is the one who is committed to religion teaching both in appearance and ethics. This person is considered a religious person...I mean committed to most of the religion teachings. It is imposable for the human to be committed to all of religion rules, this is perfection, and no one is perfect...” (FG, Norah, single).

Attitudes toward Islamic Banking

“Now they say all banks have Sharyah committee. So all people enter the banking...but they say to you, we do not take usury. They take interest” (FG, Norah, single)

“They are the banks which are assumed that all their transactions are according to Sharyah law. I have said assumed because I think there are not 100% Islamic bank exists these days. For example, you find a bank which sells you a product, let say a house, using Islamic method. However, at the same time he is abusing the buyer need by duplicate the price, approximately 100%. The poor buyer spends 25 years to pay the house price. Is this Islamic? From my point view, it is not” (FD, Saleh, married)

The higher religiosity the participants are the more they are willing to accept Islamic banking rather than conventional banking, even if Islamic banks provide lower banking services than those services provided by conventional banks. However, low religiosity participants refer to the important for high quality services for them, and they try to justify their choice to do banking with conventional banks rather than Islamic banks to that, they are not going to do commercial transaction with those banks, so they will not receive any interest, which means that there are no real differences between the two banking systems in their opinions.

“Even the conventional banks start to use the Sharyah compliant products as a marketing tool only to attract Muslim consumers. And they hire Muslim religious scholars in their Sharyah committee” (FD, Saleh, married)

Religiosity and attitudes to Islamic banking

“I think marketing has played an important role... we are those kinds of people who are influenced by word- of mouth. I think (he mentioned a name of the well known Islamic banks in Saudi Arabia) gained this feature, which is having a good reputation among individuals in the society. Furthermore, there is a symbol, who is the owner of that bank, he looks as a religious person and he is well known by his charitable given. All these features influenced our assessment of the banks. According to these features, we decided to be they Sharyah compliant or not” (FD, Adel, married).

Social influence

“I remembered five years ago, I was in need for a loan, and I was planning to take it from a conventional bank because they have an offer at those days. However, I met a friend he was working in one of the leading Islamic banks in Saudi Arabia, and he convinced me not to take the loan from the conventional bank and take it from the Islamic banks because it is better. I followed his advice. Listening to other advice and not knowing what is really Islamic banking made me made a bad decision, so I think it is important to raise people awareness of what is real Islamic banking” (FD, Adel, married).

Criteria in choosing their bank

“My salary is sent to a conventional bank. I did not choose this bank actually I have another bank account with Islamic bank. I don't know I can't lie all my financial accounts are managed by my brother.” (FG, Aisha, married).

How often they visit the bank branch?

“For me sometimes I spend a year without going to the bank branch” (FG, Sarah, married).

“Now we have the phone banking...we do not go to the branch” (FG, Sarah, married).

“If I have a bill to be paid or many to be transferred, I will ask my brother to do it through phone banking.” (FG, Shyma, single).

What do they think of e-banking?

“It is amazing; someone can pay his bills while he is in bed. Thank Allah for this great gift” (FG, Sarah, married).

The important for human interaction with bank employees and with other customers in the bank branch

“We do not interact with other customers. We enter the bank branch covering our faces and leave covered” (FG, Sarah, married).

“Sometimes employees are not helpful.” (FG, Hala, married).

“It depends on the relations, if you meet someone you know there you will not feel comfort” (FG, Hala, married).

Risk in using Internet banking

“It was me; I am the one who made a mistake in one number. It was the last number. I transfer the money to another account. I asked them to return the money. Until now I did not receive any answer from the bank. Even my sister she faced the same problem in Kuwait, she was using the ATM to transfer money” (FG, Aisha, married).

Do they think religion made aware of risk?

“Our religion made us make sure before we do anything. We make sure that it has no harm in us.” (FG, Hosah, single).

“Risk may happen, but the important is the person did not drive himself toward it. Human has a brain, but financial transactions, especially phone banking, we can't live without it, especially for women... we need to pay our bills. Men can live without it. Men can move without restrictions. And we are lazy people we look for everything we need to finish our work very fast. Not because we have something else to do, but because we are generation that needs fast things” (FG, Norah, single).

“I would say this service helps Muslim woman a lot. Instead of going out from her house ten times, she did not go out. Then when we say the risk, only those who own millions may feel the risk. For people like us, who their account balances ranges from 4,000 to 5,000 Saudi riyals. We know if it decreased by one riyal.” (FG, Sarah, married).

“I did not see any contradiction between religion and technology; if a person is real religious Muslim he/ she will not be hesitate to use technology” (FD, Adel, married)

Preference for Internet banking

“Sometimes woman needs some privacy. I mean she did not want her husband know, literally... so if he took me, who will take me to the ATM or bank branch but him?. When he takes me there he will ask several questions, and he will urge me to finish fast” (FG, Hala, married).

Referring to his banking in Saudi Arabia:

“All my transactions are through the internet banking, I would only go to the bank branch if I need to apply for a loan or sign some papers...” (FD, Saleh, married).

“I prefer to use the internet banking rather than going to the bank branch where it is too crowded... if they asked me to pay 500 Saudi riyal for using internet banking I would do so” (FD, Saleh, married).

Restriction in Internet

“To use the Internet it is ok, but if you use it evasively this may put you in suspicious position. If you stay too long on the Internet they will start to ask several questions. They do not know, they do not understand.” (FG, Norah, single).

“I am against allowing free access to the Internet, especially for those who have sons and daughters” (FG, Sarah, married).

“Internet is everywhere in the house; you can get an access to it even in the rooms” (FG, Syhma, single).

Their intention to adopt Internet-only banks

“Why should I deal with such a bank if I have other banking alternatives” (FG, Norah, single).

“But what about their transactions?. The thing which I have not seen I feel afraid. Who behind their businesses?. Maybe they are using unlawful methods; maybe the company is unlawful” (FG, Norah, single).

“See, if all people adopt Internet only banks, we will do the same. If the e-government exist, we all will adopt, but if there are no other alternatives. If there is no other banking alternative, I will adopt it... if I know from people who opened an account in that bank, the way the bank does its business its methods, and who is managing the bank. Maybe the mafia is infolded in it. I should know if it is ‘Halal’ or ‘Haram’” (FG, Norah, single).

“We will accept it if we understand it and feel secure toward it... but if there are alternative banks I will not go for any bank tell I understand it” (FG, Sarah, married).

“If everyone adopts it, this mean it is granted” (FG, Hala, married).

Their intention to adopt Internet-only Islamic banks

“When you said, virtual banking, I felt it is a not real bank, so I felt scared of it. Even before having more information about it” (FG, Hosah, single).

“If it is an Internet only Islamic bank, and I heard about this bank before (it had a good reputation) sure I will deal with it. I will not deal with conventional banks, even though if it is the first time I deal with Internet based banks. This will only happen if I heard that it is ok, and it has a good reputation. Sure they will care about their reputation” (FG, Norah, single).

“I will not deal with it until I make sure it is Islamic, and there was no other Islamic banking alternative but the one which is provided on line” (FG, Sarah, married).

“If it is Islamic you feel secure, even if it is an Internet based” (FG, Hosah, single).

“I have to question. If I need to deposit money in this Internet based bank, how I can do that? Is it through the ATM? Or it only relays on transferring money? That mean if I have cash, I will not be able to deposit it. In regard to acceptance or rejecting of such banks, I think I will accept that kind of banks but with certain conditions. The Internet services of such banks should be with very high standards and without any mistakes. Literary the Iinternet services should compromise the non- existence of branches” (FD, Adel, married).

“I think the banking services become very clear and easy for everyone. Therefore, we do not need for human factor all the time. Sometimes a human factor complicate the transaction and make you hate the bank. For me when I decided to go to the bank branch I start thinking of the crowdedness and the carelessness of bank employees, and if technology will satisfy my need for not going to the bank branch I welcome it” (FD, Adel, married)

“I trust internet banking very much, the reason for this trust is because my computer has been hacked once and my banking passwords have been stolen. It was my fault. Those who stole my passwords had transferred some money from my bank account. And after I told the bank about this incident and after reviewing the transaction and make sure that it had happened, they refund me within 28 days, without any questioning. This experience makes me trust the banks and that the banks are caring to give the customer all types of trust to retain him/her.” (FD, Fahad, single).

“at the beginning of modern technology diffusion there was some conservative from religious people in Saudi Arabia against it. However, now there is clear understanding of banking services, which are not against Islamic religion, either they are delivered online or any other delivery channel” (FD, Fahad, single)

“Without any hesitating if they provided me with excellent services. I do not need the bank branch, and I trust e-banking more than I trust the employees because with e-banking, there are no electronic mistakes, and when these electronic mistakes accrue, they did not deny them and claim another people responsibility as the case when employees do now. With electronics mistakes, they trace it and correct it immediately. It is enough to have to bank Headquarters to visit it if necessary” (DF, Fahad, single)

Appendix C : Statistics

C1. Descriptive statistics (Means and Std. Deviation)

	Mean	Std. Deviation	Analysis N
Previous experience:			
I commonly use lots of automated system when dealing with other businesses.	4.75	2.050	653
I do not have much experience using the Internet.	3.40	1.995	653
I use a lot of technologically based products and services.	4.91	1.803	653
Awareness			
I have enough information about Internet-only banks services.	4.02	2.057	653
I have enough information about the benefits of Internet-only banks.	4.04	1.928	653
I have enough information of using Internet-only banks.	4.15	1.927	653
I never have information about Internet-only banks.	3.36	2.088	653
Perceived ease of use			
I think my interaction with the Internet-only banks will be clear and understandable.	4.87	1.940	653
I believe that it is easy to get the system difficult to use to do what I want it to do.	4.97	1.755	653
Overall, I believe that the Internet-only banks will be easy to use.	5.12	1.669	653
I think it would be easy to learn using the Internet-only banks.	4.94	1.886	653
Perceived usefulness:			
I think using the Internet-only banks in my banking would enable me to accomplish tasks more quickly.	5.04	2.100	653
I think using the Internet-only banks would improve my banking performance.	4.94	1.828	653
I think using the Internet-only banks in my banking would increase my productivity.	4.80	1.856	653

I think using the Internet-only banks would enhance my effectiveness in banking.	4.94	1.866	653
I think using the Internet-only banks would make it easier to do my banking.	5.29	1.833	653
I would find the Internet-only banks useful in my banking.	5.21	1.846	653
Behavioural intention:			
I intend to use the Internet-only banks.	4.58	2.008	653
I predict that I should use the Internet-only banks.	4.57	1.845	653
It is likely that I will transact with the Internet-only banks.	4.83	1.801	653
Attitude:			
Using the Internet-only banks is a good idea.	4.98	2.014	653
I like the idea of using the Internet-only banks.	5.02	1.819	653
Using the Internet-only banks is pleasant.	4.33	1.926	653
I dislike the idea of using the Internet-only banks.	3.39	2.082	653
Personal Innovativeness:			
Other people come to you for advice on new technology.	4.78	2.035	653
It seems your friends are learning more about the newest technology than you are.	4.70	1.836	653
In general, you are among the first in your cycle of friends to acquire new technology when it appears.	4.77	1.819	653
You can usually figure out new high-tech products and services without help from others.	4.90	1.788	653
You keep up with the latest technological development in your areas of interest.	4.62	2.128	653
You enjoy the challenge of figuring out high-tech gadget.	4.74	1.976	653
You find you have fewer problems than other people in making technology work for you.	4.41	2.049	653
Observeability:			
I believe I could communicate to others the outcomes of using the Internet-only bank.	5.05	1.745	653
The results of using the Internet-only bank are apparent to me.	5.03	1.776	653
I think I would have no difficulty telling others about the results of using the Internet-only bank.	5.05	1.788	653
Perceived risk:			
I worry about giving my credit card number or login to bank websites.	4.66	1.946	653
I am worried that they will be intercepted and modified by unauthorised third parties like hackers.	4.65	2.034	653
I think bank websites could provide my personal information to other companies without my consent.	4.64	2.049	653
Sending data to the bank website might It increases the likelihood of receiving spam.	4.88	1.841	653
I think bank websites endanger my privacy by using my personal information without my permission.	4.81	1.875	653

Compatibility:			
Using the Internet-only bank is compatible with my lifestyle.	5.08	3.089	653
Using the Internet-only bank is completely compatible with my needs.	5.06	1.764	653
I think that the Internet-only bank fit well with the way I like to get things done.	4.69	1.880	653
Trialability:			
I have had opportunities to try out the Internet-only bank.	4.31	2.179	653
I can use the Internet-only bank on a trial basis to see what it can do.	4.72	1.883	653
It is easy to try out the Internet-only bank without a big commitment.	4.85	1.843	653
Type of the service:			
Do you care that the Internet-only bank, which you may deal with, provides you with Islamic banking.	2.54	.858	653
Personal religiosity:			
I make efforts to deepen my understanding of Islamic law.	3.76	1.313	653
I feel at peace when I hear the Qur'an recited.	4.08	1.178	653
I love my brothers and sisters in Islam as I love myself.	4.01	1.175	653
I try to understand the meanings of Qur'anic words/ verses.	4.02	1.144	653
I feel sad when Ramadan ends.	4.09	1.160	653
I advise others to perform obligatory prayer.	3.93	1.158	653
I find time to recite the Qur'an even if I am busy.	3.72	1.193	653
I thank Allah SWT when beggars come to my house.	3.91	1.231	653
I do not expose the shortcomings of others.	4.02	1.163	653
I make the effort not to display my personal good deeds.	4.05	1.112	653
I usually discuss religious issues with my friends.	3.85	1.102	653
I make sure all my family members are followings (Sunnah) of our prophet.	3.98	1.082	653
I make an ongoing effort to increase the frequency of my non-obligatory (nafil) prayers.	3.75	1.148	653
I do worry if I cannot pay debt on time.	4.13	1.105	653
I make efforts to have ablution (wudhu) at all time.	3.96	1.146	653
I will keep a person's identity hidden when I talk about them, and they are not present.	4.07	1.060	653
I do not neglect my friends' dignity.	4.15	1.069	653
I refer to religious scholars when I feel uncertain about Islamic rulings.	4.02	1.057	653
I like to help the poor without anyone knowing.	4.17	1.047	653
I make an effort to internalise the Prophet's ethics in my daily life.	4.11	1.039	653
I feel guilty when I hurt my parents.	4.31	1.035	653
I use public buses, walkways, etc. with care/respect.	4.18	1.090	653
I respect all opinions.	4.13	1.051	653
I feel happy when someone says praises one of my friends.	4.12	1.137	653

I have started saving money for Hajj since my early days.	3.55	1.407	653
I prefer to do any form of labour than to beg.	4.14	1.138	653
I make sure when I read the Qur'an, I understand its demands.	3.99	1.067	653
I like to take advantage of opportunities to understand Islam with my family.	3.91	1.145	653
I look for opportunities to give charity (Sadaqa).	4.00	1.131	653
I do not enter a person's house until I am allowed.	4.21	1.074	653
I make an effort to make my guests feel as comfortable as possible.	4.21	1.093	653
I give Zakah every year. (If I have completed nesab).	4.09	1.168	653
Goals should be accomplished.	4.14	1.156	653
Listening to religious leaders:			
It is important that people listen to the opinion of the Muslim clergy in all their financial decisions.	2.40	1.392	653
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious.	2.49	1.417	653
Need for human interaction:			
Personal attention from the people at my bank is not important to me.	4.08	1.943	653
It bothers me to use a machine when I could talk to a live person instead.	4.45	1.975	653
Social influence:			
I would consider using Internet-only banks if someone personally recommended it.	4.88	1.925	653
When trying new technology, I trust my own instinct more than advice from others.	4.90	1.789	653
Most people who are important to me think that I should use or continue to use Internet-only banks.	4.79	1.822	653
Trust:			
I think the Internet-only banks will be trustworthy.	4.55	2.015	653
I think the Internet-only banks will keep promises and commitments.	4.60	1.784	653
I guess I will trust the Internet-only banks because they will keep my best interest in mind.	4.57	1.833	653
Human values:			
Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.	4.27	1.823	653
It is important to him to be rich. He wants to have a lot of money and expensive things.	4.46	1.552	653
He thinks it is important that every person in the world be treated equally. He believes everyone should have equal opportunities in life.	4.10	1.848	653
It is important to him to show his abilities. He wants people to admire what he does.	4.23	1.714	653
It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.	4.13	1.741	653

He likes surprises and is always looking for new things to do. He thinks it is important to do many different things in life.	4.26	1.645	653
He believes that people should do what they're told. He thinks people should follow rules at all times, even when no one is watching.	4.23	1.729	653
It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them.	4.21	1.716	653
It is important to him to be humble and modest. He tries not to draw attention to himself.	4.22	1.786	653
Having a good time is important to him. He likes to spoil himself.	4.22	1.685	653
It is important to him to make his own decisions about what he does. He likes to be free to plan and not depend on others.	4.28	2.956	653
It is very important to him to help the people around him. He wants to care for their wellbeing.	4.22	1.749	653
Being very successful is important to him. He hopes people will recognise his achievements.	4.13	1.813	653
It is important to him that the government ensure his safety against all threats. He wants the state to be strong so it can defend its citizens.	4.02	1.819	653
He looks for adventures and likes to take risks. He wants to have an exciting life.	4.27	1.691	653
It is important to him always to behave properly. He wants to avoid doing anything people would say is wrong.	4.19	1.721	653
It is important to him to get respect from others. He wants people to do what he says.	4.20	1.761	653
It is important to him to be loyal to his friends. He wants to devote himself to people close to him.	4.11	1.713	653
He strongly believes that people should care for nature. Looking after the environment is important to him.	4.13	1.751	653
Tradition is important to him. He tries to follow the customs handed down by his religion or his family.	4.24	1.688	653
He seeks every chance he can to have fun. It is important to him to do things that give him pleasure.	4.25	1.727	653

C2. Distribution of the research sample according to the citythat they live in.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Al Riyadh	415	63.5	63.6	63.6
	Al Qassim	55	8.4	8.4	72.0
	Makkah	38	5.8	5.8	77.8
	Al Madinah	8	1.2	1.2	79.0
	Jaddah	37	5.7	5.7	84.7
	Al Dammam	14	2.1	2.1	86.8
	Al Kubar	5	.8	.8	87.6
	Al Ahsa	14	2.1	2.1	89.7
	Kames Moshet	1	.2	.2	89.9
	Arar	3	.5	.5	90.4
	Skaka	4	.6	.6	91.0
	Hail	17	2.6	2.6	93.6
	Hafer Al Baten	3	.5	.5	94.0
	Jezan	7	1.1	1.1	95.1
	Beshah	1	.2	.2	95.3
	Wade Al Doaser	1	.2	.2	95.4
	Abha	11	1.7	1.7	97.1
	Al Taif	4	.6	.6	97.7
	Al Bahah	4	.6	.6	98.3
	Njran	3	.5	.5	98.8
	Shaqra	1	.2	.2	98.9
	Tabuk	1	.2	.2	99.1
	Yanboa	3	.5	.5	99.5
	Al Karj	2	.3	.3	99.8
	Al Doadme	1	.2	.2	100.0
	Total	653	99.8	100.0	

C3. Redundancy and communality: Constructions communality, with introducing the moderating effect of human values, religious leaders' advice, and the type of the service.

Total	SSO	SSE	1-SSE/SSO
AC	1306.00	820.41	0.37
BE	1306.00	783.75	0.40
CO	1306.00	814.54	0.38
HD	1306.00	908.13	0.30
PO	1306.00	921.30	0.29
SD	1306.00	1111.86	0.15
SEC	1306.00	807.16	0.38
ST	1306.00	895.79	0.31
TR	1306.00	827.32	0.37
UN	1959.00	1027.09	0.48
Attitude	1959.00	1023.27	0.48
Attitude * AC	3918.00	1158.66	0.70
Attitude * BE	3918.00	1250.04	0.68
Attitude * CO	3918.00	1222.58	0.69
Attitude * HD	3918.00	1314.72	0.66
Attitude * PO	3918.00	1392.45	0.64
Attitude * SD	3918.00	1648.72	0.58
Attitude * SEC	3918.00	1130.74	0.71
Attitude * ST	3918.00	1267.49	0.68
Attitude * TR	3918.00	1231.82	0.69
Attitude * UN	5877.00	1733.14	0.71
Awareness	1959.00	755.32	0.61
Compatibility	1959.00	736.20	0.62
Ease of use	2612.00	1368.69	0.48
Experience	1306.00	909.41	0.30
Human	1959.00	1374.05	0.30
Innovativeness	4571.00	2237.55	0.51
Intention	1959.00	811.00	0.59
Islamic services	653.00	653.00	0.00
Religiosity	21549.00	10927.35	0.49
Religiosity * Islamic services	21549.00	4837.97	0.78
Religiosity * religious scholars' advice	43098.00	12411.51	0.71
Religious scholars' advice	1306.00	658.33	0.50
Risk	3265.00	1312.41	0.60
Social	1959.00	1000.88	0.49
Trialability	1959.00	1262.79	0.36

Perceived trust	1959.00	737.89	0.62
Usefulness	3918.00	1571.75	0.60
Observeability	1959.00	1423.39	0.27

C5. Indicators Commuality

Total	SSO	SSE	1-SSE/SSO
ATT1	653.00	314.33	0.52
ATT1*hv10HD	653.00	174.18	0.73
ATT1*hv11SD	653.00	286.38	0.56
ATT1*hv12BE	653.00	186.39	0.71
ATT1*hv13AC	653.00	145.17	0.78
ATT1*hv14SEC	653.00	147.84	0.77
ATT1*hv15ST	653.00	153.54	0.76
ATT1*hv16CO	653.00	171.01	0.74
ATT1*hv17PO	653.00	198.99	0.70
ATT1*hv18BE	653.00	174.94	0.73
ATT1*hv19UN	653.00	145.68	0.78
ATT1*hv1SD	653.00	227.58	0.65
ATT1*hv20TR	653.00	178.91	0.73
ATT1*hv21hd	653.00	195.24	0.70
ATT1*hv2PO	653.00	209.59	0.68
ATT1*hv3UN	653.00	162.73	0.75
ATT1*hv4AC	653.00	180.42	0.72
ATT1*hv5SEC	653.00	175.00	0.73
ATT1*hv6ST	653.00	196.94	0.70
ATT1*hv7CO	653.00	172.57	0.74
ATT1*hv8UN	653.00	159.94	0.76
ATT1*hv9TR	653.00	163.42	0.75
ATT2	653.00	255.45	0.61
ATT2*hv10HD	653.00	161.23	0.75
ATT2*hv11SD	653.00	268.10	0.59
ATT2*hv12BE	653.00	138.32	0.79
ATT2*hv13AC	653.00	143.56	0.78
ATT2*hv14SEC	653.00	130.33	0.80
ATT2*hv15ST	653.00	152.34	0.77
ATT2*hv16CO	653.00	155.43	0.76
ATT2*hv17PO	653.00	153.23	0.77
ATT2*hv18BE	653.00	171.00	0.74

ATT2*hv19UN	653.00	148.97	0.77
ATT2*hv1SD	653.00	226.70	0.65
ATT2*hv20TR	653.00	150.42	0.77
ATT2*hv21hd	653.00	172.81	0.74
ATT2*hv2PO	653.00	197.54	0.70
ATT2*hv3UN	653.00	166.00	0.75
ATT2*hv4AC	653.00	130.11	0.80
ATT2*hv5SEC	653.00	142.88	0.78
ATT2*hv6ST	653.00	171.80	0.74
ATT2*hv7CO	653.00	154.99	0.76
ATT2*hv8UN	653.00	125.83	0.81
ATT2*hv9TR	653.00	161.84	0.75
ATT3	653.00	453.49	0.31
ATT3*hv10HD	653.00	318.50	0.51
ATT3*hv11SD	653.00	302.27	0.54
ATT3*hv12BE	653.00	301.55	0.54
ATT3*hv13AC	653.00	285.17	0.56
ATT3*hv14SEC	653.00	269.62	0.59
ATT3*hv15ST	653.00	304.19	0.53
ATT3*hv16CO	653.00	287.94	0.56
ATT3*hv17PO	653.00	302.79	0.54
ATT3*hv18BE	653.00	277.84	0.57
ATT3*hv19UN	653.00	292.52	0.55
ATT3*hv1SD	653.00	337.69	0.48
ATT3*hv20TR	653.00	286.83	0.56
ATT3*hv21hd	653.00	292.76	0.55
ATT3*hv2PO	653.00	330.31	0.49
ATT3*hv3UN	653.00	257.01	0.61
ATT3*hv4AC	653.00	274.23	0.58
ATT3*hv5SEC	653.00	265.06	0.59
ATT3*hv6ST	653.00	288.68	0.56
ATT3*hv7CO	653.00	280.64	0.57
ATT3*hv8UN	653.00	274.47	0.58
ATT3*hv9TR	653.00	290.40	0.56
AWE1	653.00	270.09	0.59
AWE2	653.00	213.52	0.67
AWE3	653.00	271.71	0.58
COMP1	653.00	244.30	0.63
COMP2	653.00	217.89	0.67
COMP3	653.00	274.01	0.58

EXP1	653.00	455.62	0.30
EXP3	653.00	453.79	0.31
HUM1	653.00	399.27	0.39
HUM2	653.00	456.33	0.30
HUM3	653.00	458.45	0.30
INNO1	653.00	251.41	0.62
INNO2	653.00	407.30	0.38
INNO3	653.00	284.09	0.57
INNO4	653.00	262.90	0.60
INNO5	653.00	275.19	0.58
INNO6	653.00	310.16	0.53
INNO7	653.00	446.49	0.32
INT1	653.00	265.89	0.59
INT2	653.00	242.03	0.63
INT3	653.00	303.08	0.54
LISTEN1	653.00	334.90	0.49
LISTEN2	653.00	323.43	0.50
PRODUCT	653.00	653.00	0.00
REL1	653.00	274.09	0.58
REL1*LISTEN1	653.00	174.47	0.73
REL1*LISTEN2	653.00	181.06	0.72
REL1*PRODUCT	653.00	155.68	0.76
REL10	653.00	326.99	0.50
REL10*LISTEN1	653.00	178.89	0.73
REL10*LISTEN2	653.00	186.79	0.71
REL10*PRODUCT	653.00	140.96	0.78
REL11	653.00	365.95	0.44
REL11*LISTEN1	653.00	201.84	0.69
REL11*LISTEN2	653.00	213.80	0.67
REL11*PRODUCT	653.00	153.18	0.77
REL12	653.00	342.66	0.48
REL12*LISTEN1	653.00	188.44	0.71
REL12*LISTEN2	653.00	205.80	0.68
REL12*PRODUCT	653.00	146.43	0.78
REL13	653.00	394.74	0.40
REL13*LISTEN1	653.00	236.67	0.64
REL13*LISTEN2	653.00	246.03	0.62
REL13*PRODUCT	653.00	189.71	0.71
REL14	653.00	363.81	0.44
REL14*LISTEN1	653.00	193.85	0.70

REL14*LISTEN2	653.00	200.70	0.69
REL14*PRODUCT	653.00	165.06	0.75
REL15	653.00	402.15	0.38
REL15*LISTEN1	653.00	214.06	0.67
REL15*LISTEN2	653.00	236.19	0.64
REL15*PRODUCT	653.00	171.72	0.74
REL16	653.00	305.37	0.53
REL16*LISTEN1	653.00	160.67	0.75
REL16*LISTEN2	653.00	173.69	0.73
REL16*PRODUCT	653.00	118.48	0.82
REL17	653.00	364.02	0.44
REL17*LISTEN1	653.00	183.93	0.72
REL17*LISTEN2	653.00	200.14	0.69
REL17*PRODUCT	653.00	148.05	0.77
REL18	653.00	332.42	0.49
REL18*LISTEN1	653.00	169.86	0.74
REL18*LISTEN2	653.00	190.87	0.71
REL18*PRODUCT	653.00	132.68	0.80
REL19	653.00	319.42	0.51
REL19*LISTEN1	653.00	167.45	0.74
REL19*LISTEN2	653.00	188.01	0.71
REL19*PRODUCT	653.00	119.15	0.82
REL2	653.00	251.02	0.62
REL2*LISTEN1	653.00	137.11	0.79
REL2*LISTEN2	653.00	149.28	0.77
REL2*PRODUCT	653.00	103.50	0.84
REL20	653.00	348.08	0.47
REL20*LISTEN1	653.00	174.09	0.73
REL20*LISTEN2	653.00	193.66	0.70
REL20*PRODUCT	653.00	132.64	0.80
REL21	653.00	332.86	0.49
REL21*LISTEN1	653.00	159.49	0.76
REL21*LISTEN2	653.00	186.81	0.71
REL21*PRODUCT	653.00	129.06	0.80
REL22	653.00	327.24	0.50
REL22*LISTEN1	653.00	163.35	0.75
REL22*LISTEN2	653.00	180.47	0.72
REL22*PRODUCT	653.00	131.40	0.80
REL23	653.00	340.11	0.48
REL23*LISTEN1	653.00	170.55	0.74

REL23*LISTEN2	653.00	170.54	0.74
REL23*PRODUCT	653.00	131.63	0.80
REL24	653.00	298.53	0.54
REL24*LISTEN1	653.00	158.98	0.76
REL24*LISTEN2	653.00	172.14	0.74
REL24*PRODUCT	653.00	125.11	0.81
REL25	653.00	460.17	0.30
REL25*LISTEN1	653.00	296.64	0.55
REL25*LISTEN2	653.00	312.96	0.52
REL25*PRODUCT	653.00	316.05	0.52
REL26	653.00	336.96	0.48
REL26*LISTEN1	653.00	181.66	0.72
REL26*LISTEN2	653.00	195.87	0.70
REL26*PRODUCT	653.00	149.01	0.77
REL27	653.00	300.93	0.54
REL27*LISTEN1	653.00	155.90	0.76
REL27*LISTEN2	653.00	171.87	0.74
REL27*PRODUCT	653.00	121.60	0.81
REL28	653.00	315.59	0.52
REL28*LISTEN1	653.00	187.45	0.71
REL28*LISTEN2	653.00	195.04	0.70
REL28*PRODUCT	653.00	143.33	0.78
REL29	653.00	334.48	0.49
REL29*LISTEN1	653.00	194.32	0.70
REL29*LISTEN2	653.00	205.77	0.68
REL29*PRODUCT	653.00	139.48	0.79
REL3	653.00	254.25	0.61
REL3*LISTEN1	653.00	148.57	0.77
REL3*LISTEN2	653.00	156.16	0.76
REL3*PRODUCT	653.00	114.01	0.83
REL30	653.00	296.06	0.55
REL30*LISTEN1	653.00	155.45	0.76
REL30*LISTEN2	653.00	169.04	0.74
REL30*PRODUCT	653.00	117.30	0.82
REL31	653.00	290.12	0.56
REL31*LISTEN1	653.00	158.40	0.76
REL31*LISTEN2	653.00	170.57	0.74
REL31*PRODUCT	653.00	114.01	0.83
REL32	653.00	336.11	0.49
REL32*LISTEN1	653.00	194.86	0.70

REL32*LISTEN2	653.00	208.25	0.68
REL32*PRODUCT	653.00	157.88	0.76
REL33	653.00	370.39	0.43
REL33*LISTEN1	653.00	200.76	0.69
REL33*LISTEN2	653.00	212.98	0.67
REL33*PRODUCT	653.00	160.36	0.75
REL4	653.00	229.01	0.65
REL4*LISTEN1	653.00	138.19	0.79
REL4*LISTEN2	653.00	153.56	0.76
REL4*PRODUCT	653.00	95.81	0.85
REL5	653.00	281.26	0.57
REL5*LISTEN1	653.00	152.51	0.77
REL5*LISTEN2	653.00	165.36	0.75
REL5*PRODUCT	653.00	116.67	0.82
REL6	653.00	291.20	0.55
REL6*LISTEN1	653.00	150.52	0.77
REL6*LISTEN2	653.00	179.16	0.73
REL6*PRODUCT	653.00	122.52	0.81
REL7	653.00	373.19	0.43
REL7*LISTEN1	653.00	214.63	0.67
REL7*LISTEN2	653.00	242.87	0.63
REL7*PRODUCT	653.00	196.93	0.70
REL8	653.00	394.58	0.40
REL8*LISTEN1	653.00	229.49	0.65
REL8*LISTEN2	653.00	241.09	0.63
REL8*PRODUCT	653.00	202.06	0.69
REL9	653.00	371.60	0.43
REL9*LISTEN1	653.00	174.86	0.73
REL9*LISTEN2	653.00	187.08	0.71
REL9*PRODUCT	653.00	176.53	0.73
RISK1	653.00	273.02	0.58
RISK2	653.00	239.39	0.63
RISK3	653.00	237.02	0.64
RISK4	653.00	276.57	0.58
RISK5	653.00	286.41	0.56
SOCIAL1	653.00	332.45	0.49
SOCIAL2	653.00	307.83	0.53
SOCIAL3	653.00	360.60	0.45
TRIL1	653.00	460.27	0.30
TRIL2	653.00	386.80	0.41

TRIL3	653.00	404.73	0.38
TRUST1	653.00	250.69	0.62
TRUST2	653.00	197.67	0.70
TRUST3	653.00	289.53	0.56
US1	653.00	274.57	0.58
US2	653.00	241.18	0.63
US3	653.00	230.53	0.65
US4	653.00	263.48	0.60
US5	653.00	252.55	0.61
US6	653.00	309.44	0.53
VISA1	653.00	421.76	0.35
VISA2	653.00	402.66	0.38
VISA3	653.00	460.00	0.30
hv10HD	653.00	454.62	0.30
hv11SD	653.00	403.53	0.38
hv12BE	653.00	395.64	0.39
hv13AC	653.00	458.00	0.30
hv14SEC	653.00	459.59	0.30
hv15ST	653.00	456.24	0.30
hv16CO	653.00	419.09	0.36
hv17PO	653.00	459.00	0.30
hv18BE	653.00	388.11	0.41
hv19UN	653.00	361.24	0.45
hv1SD	653.00	448.33	0.31
hv20TR	653.00	431.66	0.34
hv21hd	653.00	453.51	0.31
hv2PO	653.00	455.59	0.30
hv3UN	653.00	322.72	0.51
hv4AC	653.00	362.41	0.45
hv5SEC	653.00	317.57	0.51
hv6ST	653.00	429.54	0.34
hv7CO	653.00	395.45	0.39
hv8UN	653.00	343.13	0.47
hv9TR	653.00	395.66	0.39
Peu1	653.00	308.84	0.53
Peu2	653.00	312.20	0.52
Peu3	653.00	309.14	0.53
Peu4	653.00	438.50	0.33

C5. One-way ANOVA and Scheffe test results

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Intention	Between Groups	461.778	2	230.889	105.981	.000
	Within Groups	1416.082	650	2.179		
	Total	1877.860	652			
Ease of use	Between Groups	460.454	2	230.227	149.166	.000
	Within Groups	1003.228	650	1.543		
	Total	1463.682	652			
Usefulness	Between Groups	515.158	2	257.579	145.499	.000
	Within Groups	1150.706	650	1.770		
	Total	1665.864	652			
Attitude	Between Groups	440.157	2	220.079	107.125	.000
	Within Groups	1335.370	650	2.054		
	Total	1775.527	652			

Post Hoc Tests

Multiple Comparisons

Scheffe

Dependent Variable	(I)	(J) REALL	Mean Difference (I-J)	Std. Error	Sig.	99.9% Confidence Interval	
						Lower Bound	Upper Bound
intention	1	2	-2.064*	.196	.000	-2.80	-1.33
		3	-2.623*	.180	.000	-3.30	-1.95
	2	1	2.064*	.196	.000	1.33	2.80
		3	-.559*	.132	.000	-1.05	-.07
	3	1	2.623*	.180	.000	1.95	3.30
		2	.559*	.132	.000	.07	1.05
Ease of use	1	2	-2.034*	.165	.000	-2.65	-1.42
		3	-2.617*	.152	.000	-3.18	-2.05
	2	1	2.034*	.165	.000	1.42	2.65
		3	-.583*	.111	.000	-1.00	-.17

	3	1	2.617*	.152	.000	2.05	3.18
		2	.583*	.111	.000	.17	1.00
Usefulness	1	2	-1.680*	.177	.000	-2.34	-1.02
		3	-2.673*	.163	.000	-3.28	-2.06
	2	1	1.680*	.177	.000	1.02	2.34
		3	-.992*	.119	.000	-1.44	-.55
Attitude	3	1	2.673*	.163	.000	2.06	3.28
		2	.992*	.119	.000	.55	1.44
	1	2	-1.862*	.191	.000	-2.57	-1.15
		3	-2.542*	.175	.000	-3.20	-1.89
	2	1	1.862*	.191	.000	1.15	2.57
		3	-.681*	.128	.000	-1.16	-.20
	3	1	2.542*	.175	.000	1.89	3.20
		2	.681*	.128	.000	.20	1.16

*. The mean difference is significant at the 0.001 level.

C6. Chi-Square Tests

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Do you care that the Internet-only bank, which you may deal with, provides you with Islamic banking... * REALL	653	100.0%	0	.0%	653	100.0%
It is important that people listen to the opinion of the Muslim clergy in all their financial decisi... * REALL	653	100.0%	0	.0%	653	100.0%
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious... * REALL	653	100.0%	0	.0%	653	100.0%

Do you care that the Internet-only bank, which you may deal with, provides you with Islamic banking... * REALL

Crosstab

			REALL			Total
			1	2	3	
Do you care that the Internet-only bank, which you may deal with, provides you with Islamic banking...	Sure, it should be Islamic.	Count	30	94	239	363
		% within REALL	37.0%	50.3%	62.1%	55.6%
	Uncertain.	Count	34	58	116	208
		% within REALL	42.0%	31.0%	30.1%	31.9%
	It does not make different for me.	Count	17	35	30	82
		% within REALL	21.0%	18.7%	7.8%	12.6%
Total	Count	81	187	385	653	
	% within REALL	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.085 ^a	4	.000
Likelihood Ratio	29.026	4	.000
Linear-by-Linear Association	26.344	1	.000
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.17.

It is important that people listen to the opinion of the Muslim clergy in all their financial decisi... * REALL

Crosstab

			REALL			Total
			1	2	3	
It is important that people listen to the opinion of the Muslim clergy in all their financial decisi...	Strongly agree	Count	3	22	50	75
		% within REALL	3.7%	11.8%	13.0%	11.5%
	agree	Count	6	40	46	92
		% within REALL	7.4%	21.4%	11.9%	14.1%
	Neither Agree nor Disagree	Count	14	16	24	54
		% within REALL	17.3%	8.6%	6.2%	8.3%
	disAgree	Count	8	55	153	216
		% within REALL	9.9%	29.4%	39.7%	33.1%
	Strongly disAgree	Count	50	54	112	216
		% within REALL	61.7%	28.9%	29.1%	33.1%
Total	Count	81	187	385	653	
	% within REALL	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	67.898 ^a	8	.000
Likelihood Ratio	68.081	8	.000
Linear-by-Linear Association	4.806	1	.028
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.70.

I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious... * REALL

Crosstab

			RELL			Total
			1	2	3	
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious...	Strongly Disagree	Count	6	27	53	86
		% within REALL	7.4%	14.4%	13.8%	13.2%
	Disagree	Count	5	39	49	93
		% within REALL	6.2%	20.9%	12.7%	14.2%
	Somewhat Disagree	Count	11	27	28	66
		% within REALL	13.6%	14.4%	7.3%	10.1%
	Neither Agree nor Disagree	Count	9	37	155	201
		% within REALL	11.1%	19.8%	40.3%	30.8%
	Somewhat Agree	Count	50	57	100	207
		% within REALL	61.7%	30.5%	26.0%	31.7%
Total	Count	81	187	385	653	
	% within REALL	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	75.813 ^a	8	.000
Likelihood Ratio	74.961	8	.000
Linear-by-Linear Association	4.744	1	.029
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.19.

C7. Chi-Square test of the differences in willingness to listen to religious leaders advice between both genders

It is important that people listen to the opinion of the Muslim clergy in all their financial decisi... * time of living

			time of living	
			since you have been born	more than 10 years
It is important that people listen to the opinion of the Muslim clergy in all their financial decisi...	Strongly agree	Count	60	4
		% within time of living	26.5%	5.6%
	Agree	Count	61	7
		% within time of living	27.0%	9.7%
	Neither Agree nor Disagree	Count	17	4
		% within time of living	7.5%	5.6%
	Disagree	Count	62	17
		% within time of living	27.4%	23.6%
	Strongly disagree	Count	26	40
		% within time of living	11.5%	55.6%
Total	Count	226	72	
	% within time of living	100.0%	100.0%	

Crosstab

			time of living	
			from 6 to less than 10 years	from 3 to less than 6 years
It is important that people listen to the opinion of the Muslim clergy in all their financial decisi...	Strongly agree	Count	1	6
		% within time of living	1.6%	5.4%
	Agree	Count	7	13
		% within time of living	11.1%	11.6%
	Neither Agree nor Disagree	Count	8	7
		% within time of living	12.7%	6.3%
	Disagree	Count	27	37
		% within time of living	42.9%	33.0%

Strongly disagree	Count	20	49
	% within time of living	31.7%	43.8%
Total	Count	63	112
	% within time of living	100.0%	100.0%

Crosstab

		time of living		Total
		less than 3 years		
It is important that people listen to the opinion of the Muslim clergy in all their financial deci...	Strongly agree	Count	4	75
		% within time of living	2.2%	11.5%
	Agree	Count	4	92
		% within time of living	2.2%	14.1%
	Neither Agree nor Disagree	Count	18	54
		% within time of living	10.0%	8.3%
	Disagree	Count	73	216
		% within time of living	40.6%	33.1%
	Strongly disagree	Count	81	216
		% within time of living	45.0%	33.1%
Total	Count	180	653	
	% within time of living	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	182.796 ^a	16	.000
Likelihood Ratio	194.017	16	.000
Linear-by-Linear Association	121.520	1	.000
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.21.

I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious... * time of living

			time of living	
			since you have been born	more than 10 years
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious...	Strongly Disagree	Count	64	6
		% within time of living	28.3%	8.3%
	Disagree	Count	65	3
		% within time of living	28.8%	4.2%
	Somewhat Disagree	Count	25	8
		% within time of living	11.1%	11.1%
	Neither Agree nor Disagree	Count	43	21
		% within time of living	19.0%	29.2%
	Somewhat Agree	Count	29	34
		% within time of living	12.8%	47.2%
Total		Count	226	72
		% within time of living	100.0%	100.0%

			time of living	
			from 6 to less than 10 years	from 3 to less than 6 years
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious...	Strongly Disagree	Count	2	8
		% within time of living	3.2%	7.1%
	Disagree	Count	7	13
		% within time of living	11.1%	11.6%
	Somewhat Disagree	Count	7	7
		% within time of living	11.1%	6.3%
	Neither Agree nor Disagree	Count	26	37
		% within time of living	41.3%	33.0%
	Somewhat Agree	Count	21	47
		% within time of living	33.3%	42.0%
Total		Count	63	112

% within time of living	100.0%	100.0%
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Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	179.746 ^a	16	.000
Likelihood Ratio	188.029	16	.000
Linear-by-Linear Association	122.365	1	.000
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.37.

Crosstab

			time of living
			less than 3 years
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious...	Strongly Disagree	Count	6
		% within time of living	3.3%
	Disagree	Count	5
		% within time of living	2.8%
	Somewhat Disagree	Count	19
		% within time of living	10.6%
	Neither Agree nor Disagree	Count	74
		% within time of living	41.1%
	Somewhat Agree	Count	76
		% within time of living	42.2%
	Total	Count	180
		% within time of living	100.0%

It is important that people listen to the opinion of the Muslim clergy in all their financial deci... * gender

			Gender		Total
			male	Female	
It is important that people listen to the opinion of the Muslim clergy in all their financial deci...	Strongly agree	Count	50	25	75
		% within gender	10.1%	15.6%	11.5%
	agree	Count	66	26	92
		% within gender	13.4%	16.3%	14.1%
	Neither Agree nor Disagree	Count	42	12	54
		% within gender	8.5%	7.5%	8.3%
	disAgree	Count	176	40	216
		% within gender	35.7%	25.0%	33.1%
	Strongly disAgree	Count	159	57	216
		% within gender	32.3%	35.6%	33.1%
Total	Count	493	160	653	
	% within gender	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.613 ^a	4	.072
Likelihood Ratio	8.643	4	.071
Linear-by-Linear Association	2.042	1	.153
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 13.23.

I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious... * gender

			gender		Total
			male	female	
I will not accept the Internet-only banks if reliable Muslim clergy told me that it is not religious...	Strongly Disagree	Count	60	26	86
		% within gender	12.2%	16.3%	13.2%
	Disagree	Count	68	25	93
		% within gender	13.8%	15.6%	14.2%
	Somewhat Disagree	Count	50	16	66
		% within gender	10.1%	10.0%	10.1%
	Neither Agree nor Disagree	Count	167	34	201
		% within gender	33.9%	21.3%	30.8%
	Somewhat Agree	Count	148	59	207
		% within gender	30.0%	36.9%	31.7%
	Total	Count	493	160	653
		% within gender	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.858 ^a	4	.043
Likelihood Ratio	10.253	4	.036
Linear-by-Linear Association	.489	1	.485
N of Valid Cases	653		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.17.

Appendix (D). Sampling

D1. The name and website link for Internet forum in which the research questionnaire was posted.

Online forum name	Website link
Al Zolfe forum	http://zulfi-city.com/vb/
Riyadh city	http://www.alriyadh1.com/vb/
Al Rass forum	http://www.alrassnet.com/vb/
Al Qreat forum	http://www.algrayat.net/vb/
Kamiss Moshet forum	http://www.khamiscity.com/vb/index.php
Al Badayah forum	http://www.badae3.com/vb/
Skaka al jof forum	http://www.skaka7.com/vb/
Arar forum	http://www.alshmary.net/
Al Ahssa net	http://www.alhsa.com/forum/
Al Dammam city	http://www.dammamsa.com/vb/
Al Jobail city	http://www.jubailforums.com/
Al Kubar forum	http://www.alkhubr.net/
Bshah city	http://bishanet.net/vb/index.php
Abha city	http://www.abhaa.com/vb/
Al Bahah gate	http://www.albahah.net/forums/
Hotat sudaier forum	http://www.al-hotah.com/vb/
Hotat bane tamim forum	http://www.hotah.com/vb/
Al gat forum	http://www.alghat.com/forum.php
Jeddah city	http://www.jeddah3.com/vb/
Al Karj forum	http://www.kharj.net/vb/index.php
Hayeel forum	http://www.hyil.com/vb/
Al Gateef forum	http://www.ro-7.com/vb/
Affef forum	http://www.afif.ws/sahat/
Najran forum	http://www.najranclub.com/vb/
Jazan forum	http://www.jazan.org/vb/
Shrorah forum	http://www.sharurah.com/vb/
Al Kafje forum	http://www.khafji.net/forums/
Al Taif forum	http://www.al-taif.net/taif1/
Tabuk forum	http://tbouk.com/vb/
Ba aljorshe forum	http://www.fri7.net/vb/forumdisplay.php?f=76
Ahad rfedah forum	http://www.vb.rufaidah.net/

D2. Out put of the G*3group programme

Analysis: A priori: Compute required sample size

Input:	Tail(s) =	Two	
	Effect size f^2 =	0.05	
	α err prob =	0.05	
	Power (1- β err prob) =	0.95	
	Number of predictors =	22	
Output:	Noncentrality parameter δ =	3.6262929	
	Critical t =	1.9698976	
	Df =	240	
	Total sample size =	263	
	Actual power =	0.9507103	

Appendix (E). Internet Statistics

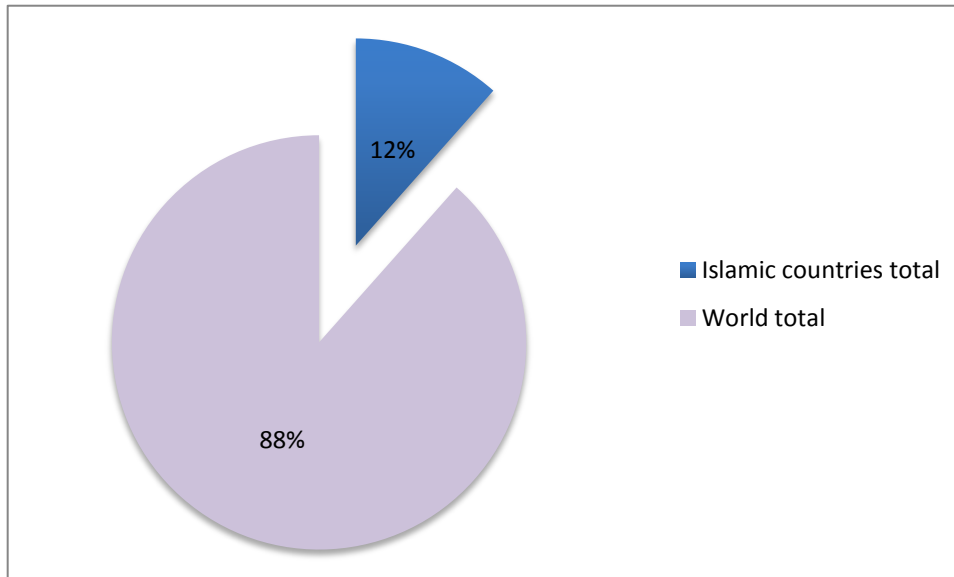
E1. Internet Penetration in Islamic Countries

	Population (2011 Est.)	Internet Usage, 2000	Internet Usage, 2011	% Population (Penetration)
Algeria	34,994,937	50,000	4,700,000	13.40%
Benin	9,325,032	15,000	744,195	3.00%
Burkina Faso	16,751,455	10,000	230,562	1.40%
Cameroon	19,711,291	20,000	783,956	4.00%
Chad	10,758,945	1,000	190,863	1.80%
Comoros	794,683	1,500	37,472	4.70%
Cote d'Ivoire	21,504,162	40,000	968,000	4.50%
Djibouti	757,074	1,400	61,320	8.10%
Egypt	82,079,636	450,000	21,691,776	26.40%
Gabon	1,576,665	15,000	108,845	6.90%
Gambia	1,797,860	4,000	159,012	8.80%
Guinea	10,601,009	8,000	95,823	0.90%
Guinea-Bissau	1,596,677	1,500	37,123	2.30%
Libya	6,597,960	10,000	391,880	5.90%
Mali	14,159,904	18,800	414,985	2.90%
Mauritania	3,281,634	5,000	100,333	3.10%
Morocco	31,968,361	100,000	15,656,192	49.00%
Mozambique	22,948,858	30,000	975,395	4.30%
Niger	16,468,886	5,000	128,749	0.80%
Senegal	12,643,799	40,000	1,989,396	15.70%
Sierra Leone	5,363,669	5,000	48,520	0.90%
Somalia	9,925,640	200	106,000	1.10%
Sudan	45,047,502	30,000	4,200,000	9.30%
Togo	6,771,993	100,000	356,300	5.30%
Tunisia	10,629,186	100,000	3,856,984	36.30%
Uganda	34,612,250	40,000	4,178,085	12.10%
Afganistan	29,835,392	1,000	1,256,470	4.20%
Azerbaijan	8,372,373	12,000	3,689,000	44.10%
Bangladesh	158,570,535	100,000	5,501,609	3.50%
Brunei Darussalem	401,890	30,000	318,900	79.40%
Indonesia	245,613,043	2,000,000	55,000,000	22.40%
Kazakhstan	15,522,373	70,000	5,448,965	35.10%
Kyrgystan	5,587,443	51,600	2,194,400	39.30%
Malaysia	28,728,607	3,700,000	17,723,000	61.70%
Maldives	394,999	6,000	114,100	28.90%
Pakistan	187,342,721	133,900	29,128,970	15.50%
Tajikistan	7,627,200	2,000	794,483	10.40%
Turkmenistan	4,997,503	2,000	110,924	2.20%
Albania	2,994,667	n/a	1,300,000	43.40%

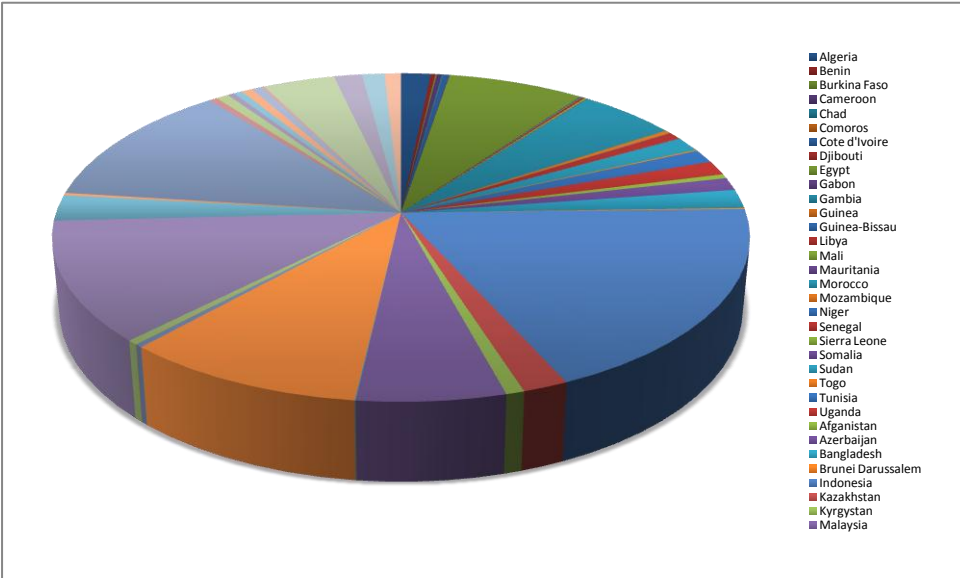
Turkey	78,785,548	n/a	35,000,000	44.40%
Uzbekistan	28,128,600	7,500	7,550,000	26.80%
Bahrain	1,214,705	40,000	694,009	57.10%
Iran	77,891,220	250,000	36,500,000	46.90%
Iraq	30,399,572	12,500	1,303,760	4.30%
Jordan	6,508,271	127,300	1,987,400	30.50%
Kuwait	2,595,628	150,000	1,100,000	42.40%
Lebanon	4,143,101	300,000	1,367,220	33.00%
Oman	3,027,959	90,000	1,741,804	57.50%
Palestine (West Bank)	2,568,555	35,000	1,512,273	58.90%
Qatar	848,016	30,000	563,800	66.50%
Saudi Arabia	26,131,703	200,000	11,400,000	43.60%
Syria	22,517,750	30,000	4,469,000	19.80%
United Arab Emirates	5,148,664	735,000	3,555,100	69.00%
Yemen	24,133,492	15,000	2,609,698	10.80%
Gaza Strip	1,657,155	n/a	n/a	n/a
Islamic countries total	1,444,357,753	9,232,200	296,146,651	20.50
WORLD TOTAL	6,930,055,154	360,985,492	2,267,233,742	32.70%

Source: *Internet Usage Stats and Population Statistics*, <http://www.internetworldstats.com/stats.htm>

E2 Percentage of Muslim use of the Internet compared by total world use

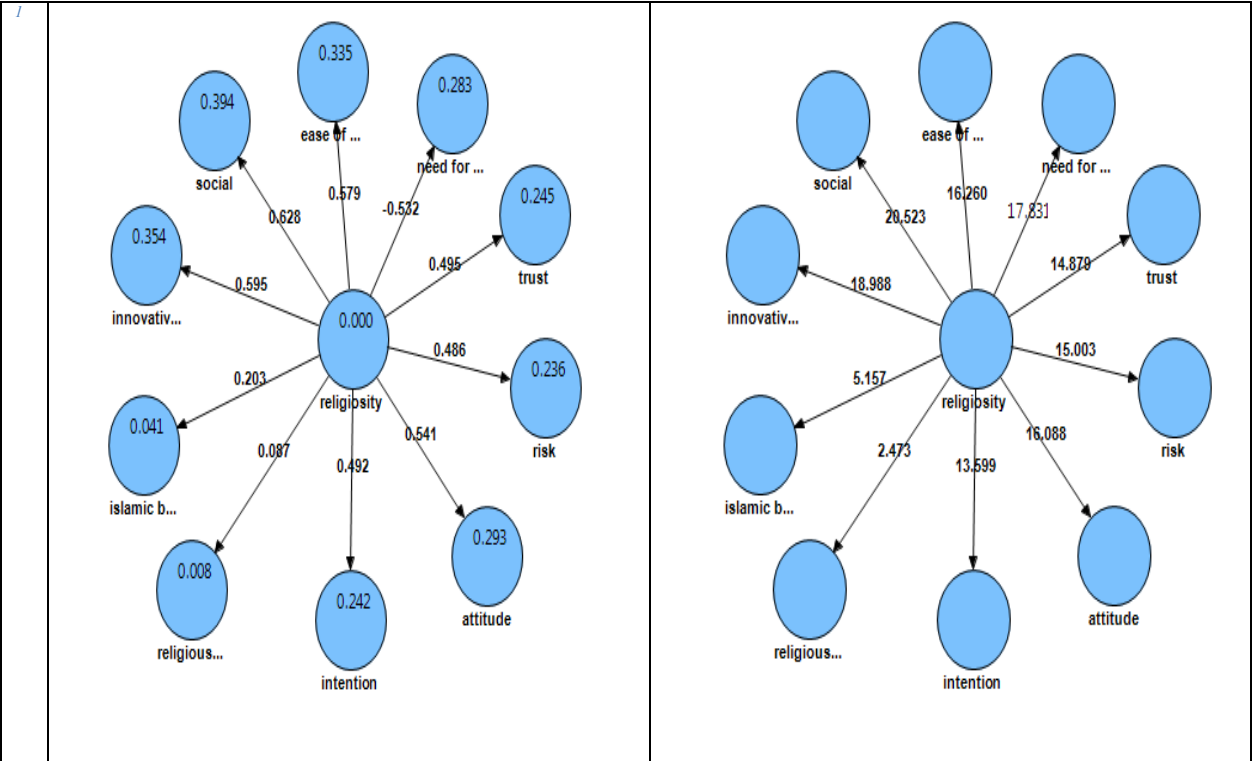


E3 Internet use in Islamic countries

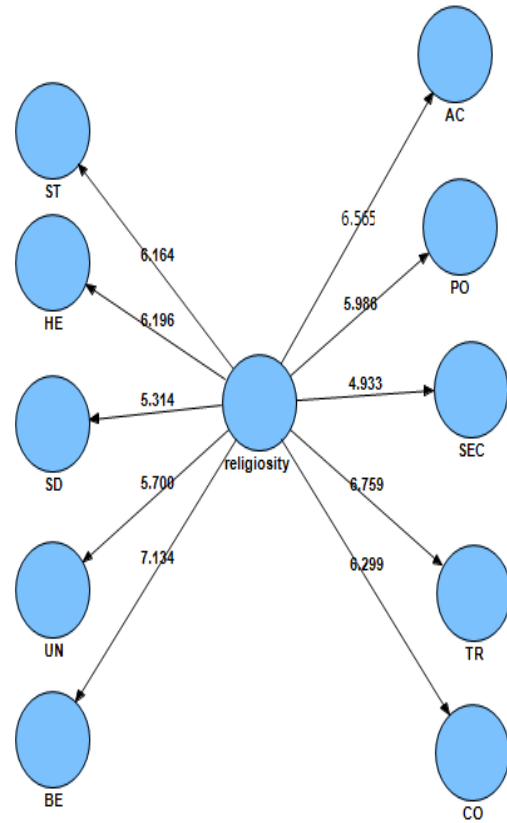
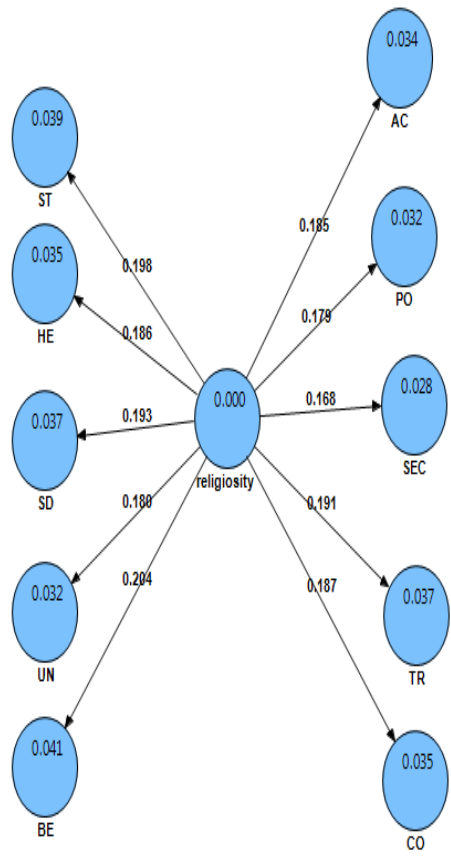


Appendix F. SmartPLS figures

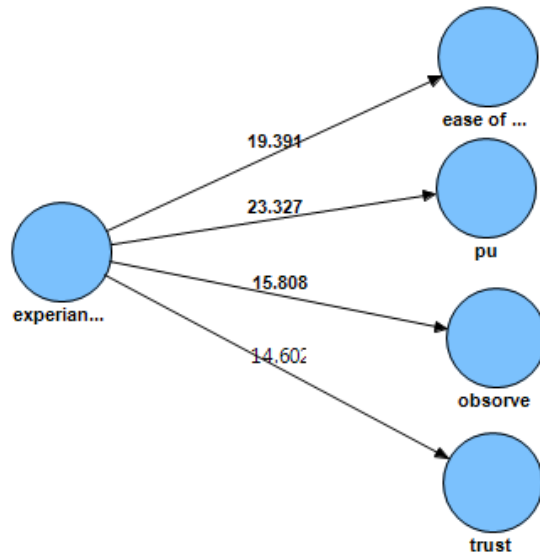
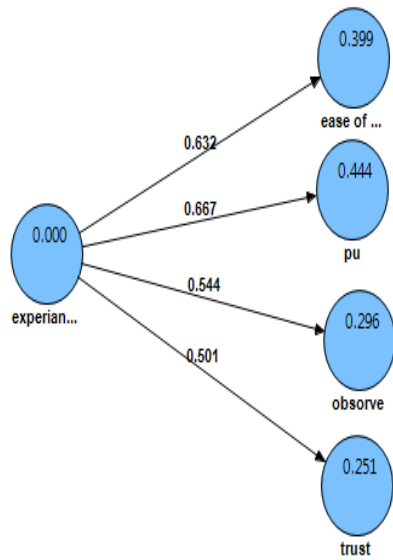
F1. Direct effect of variable



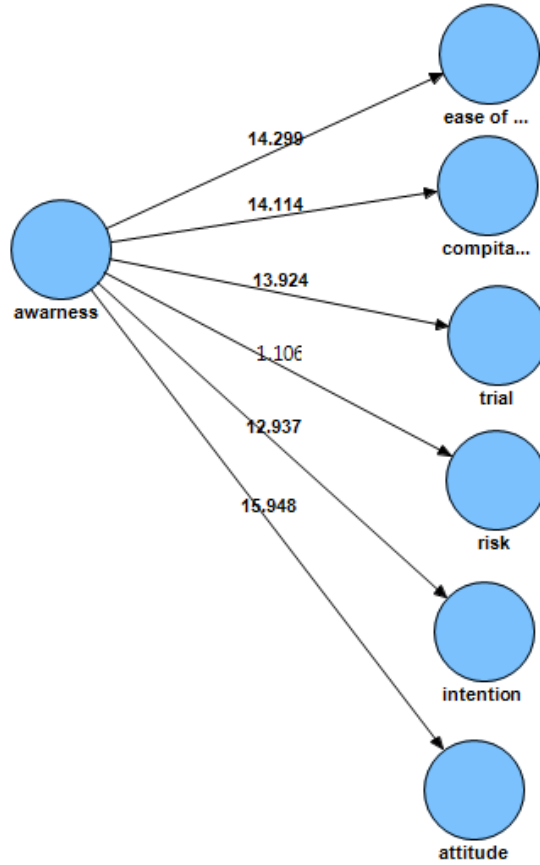
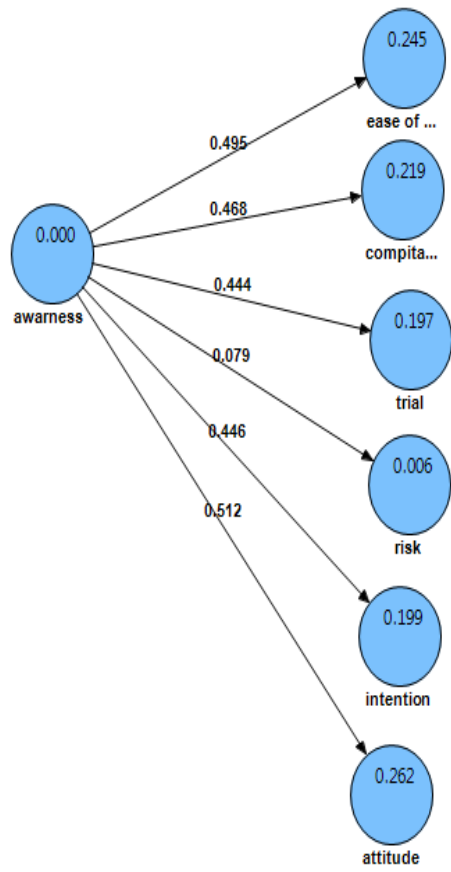
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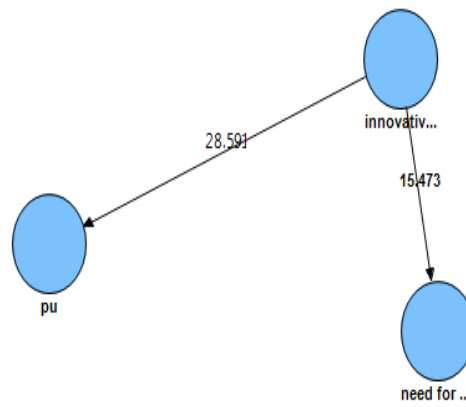
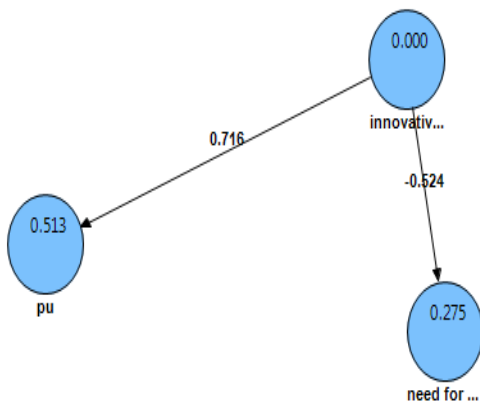
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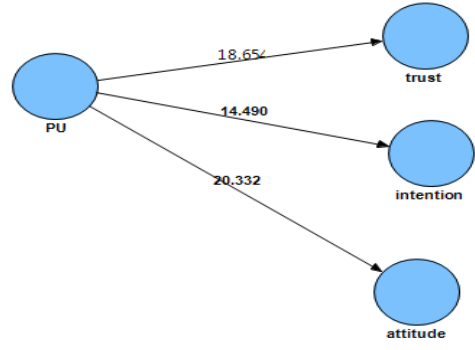
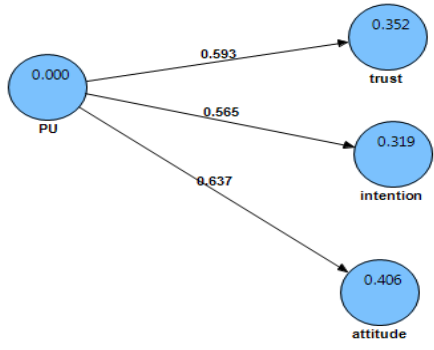
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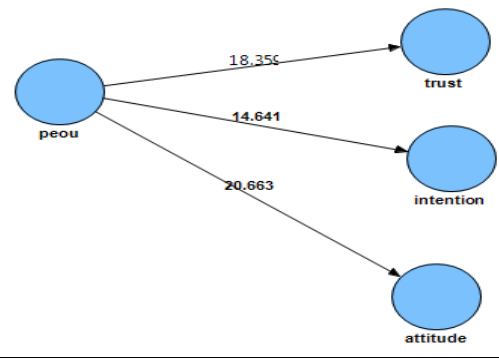
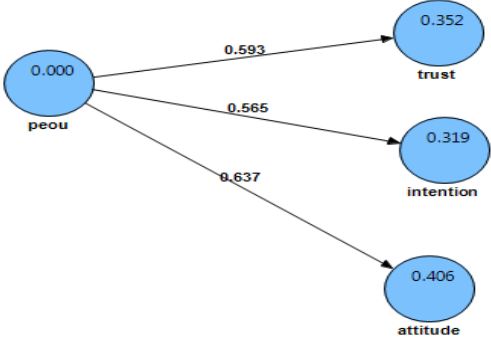
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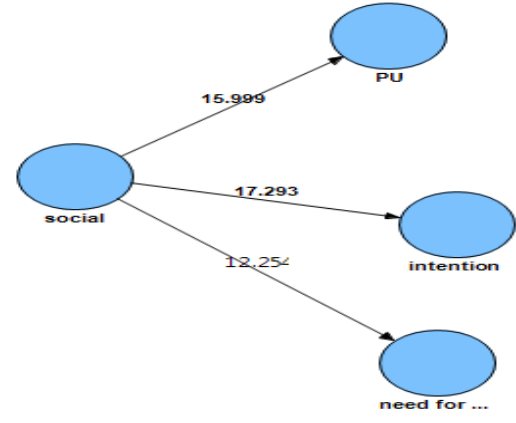
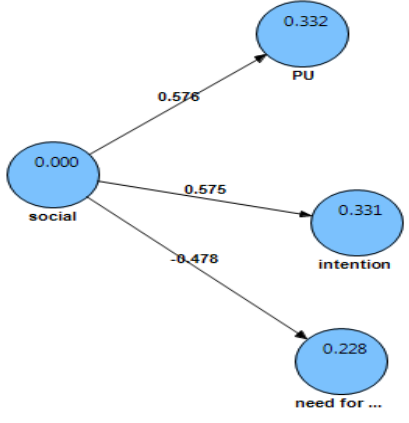
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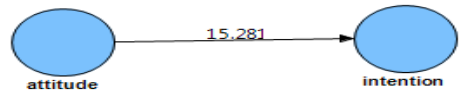
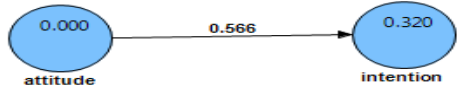
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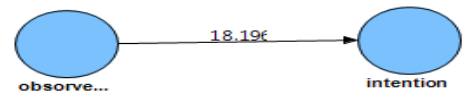
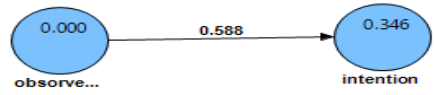
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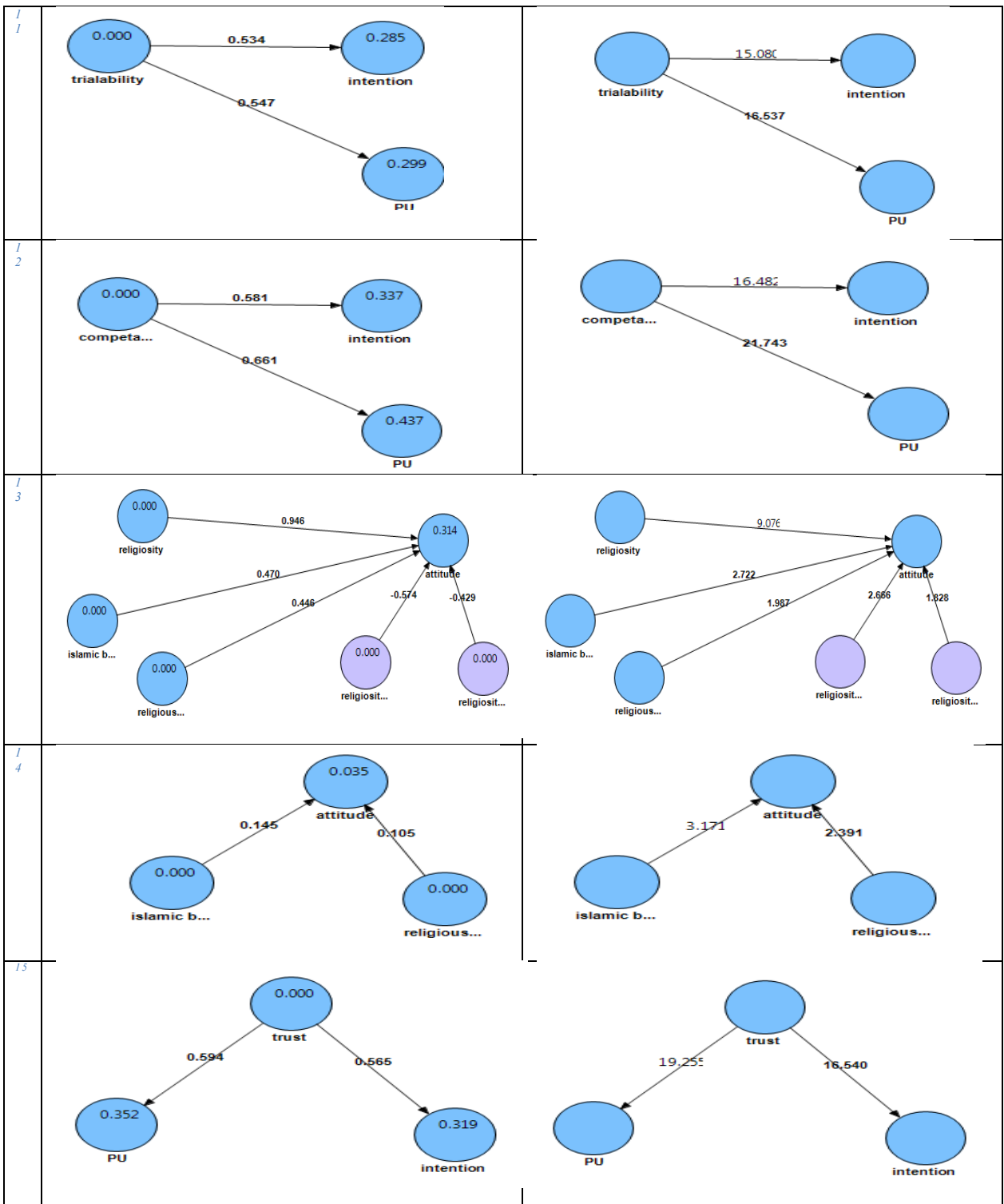


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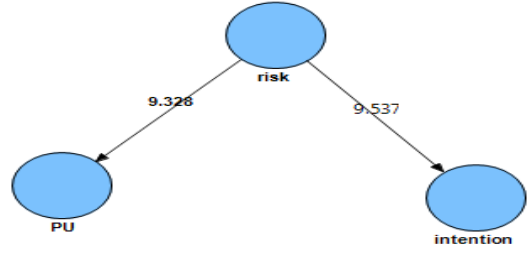
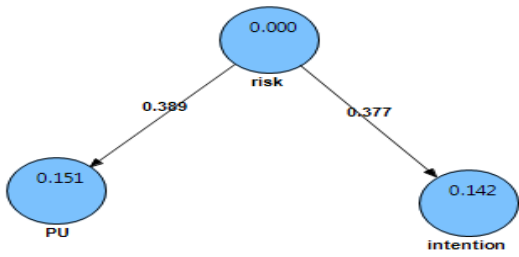


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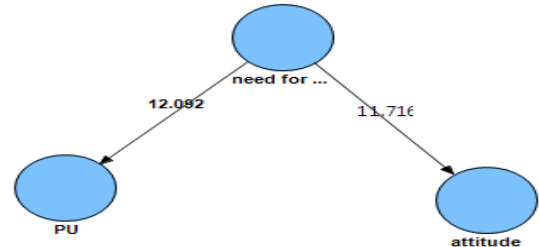
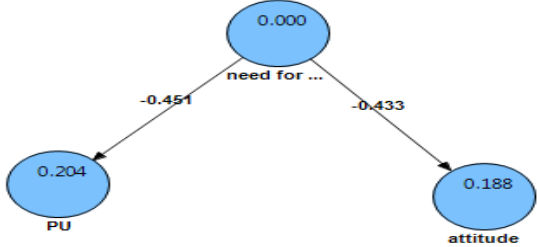




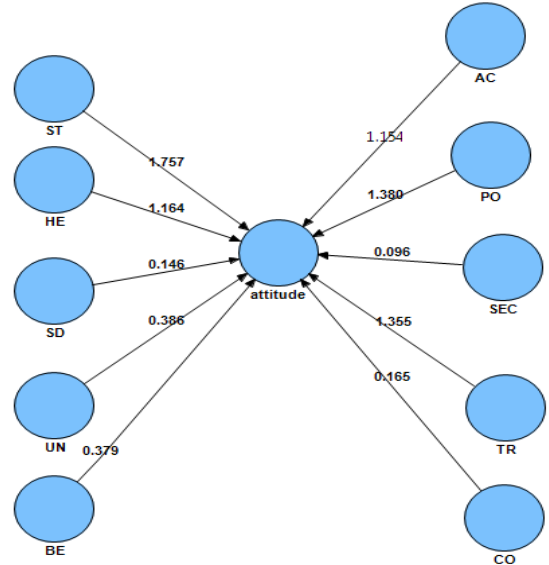
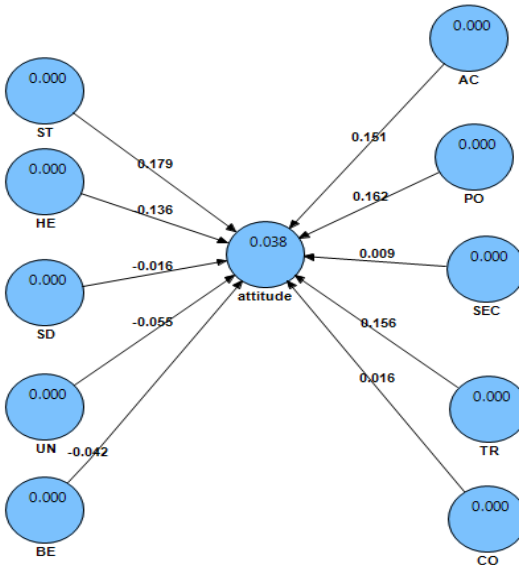
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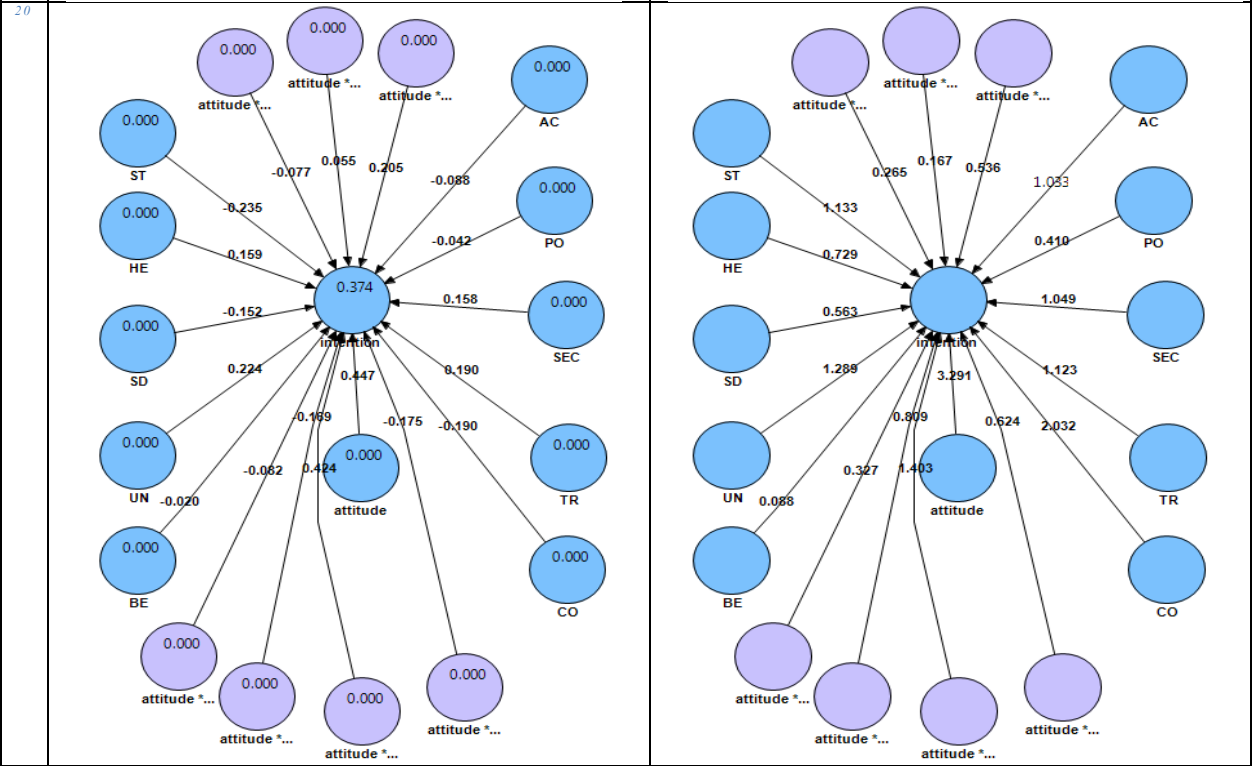
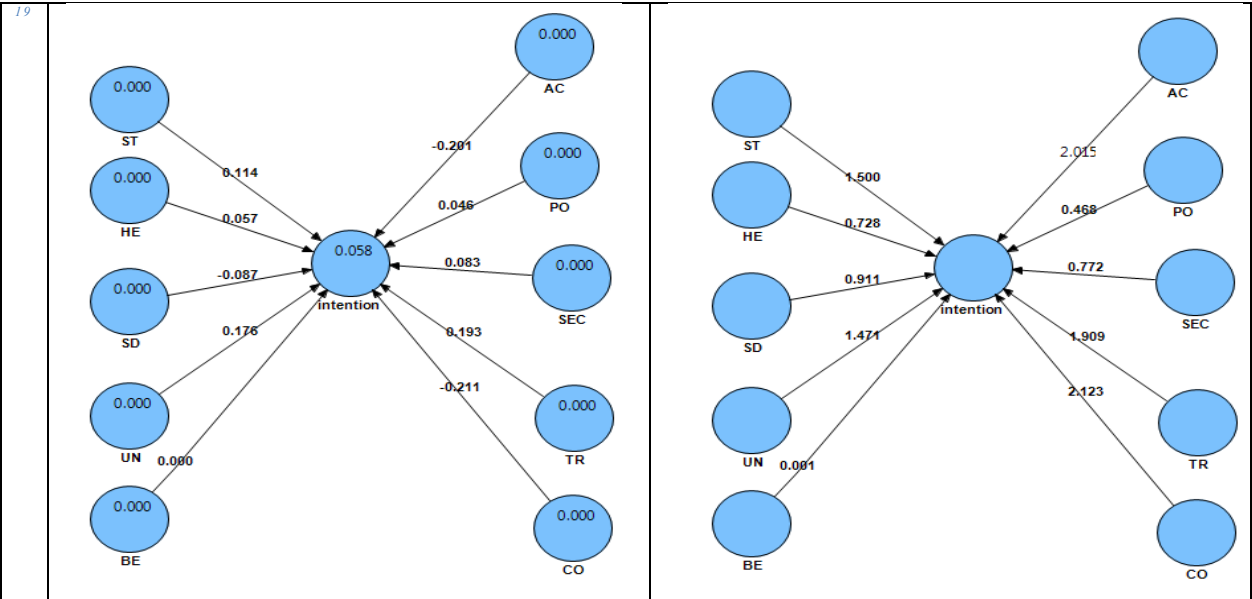


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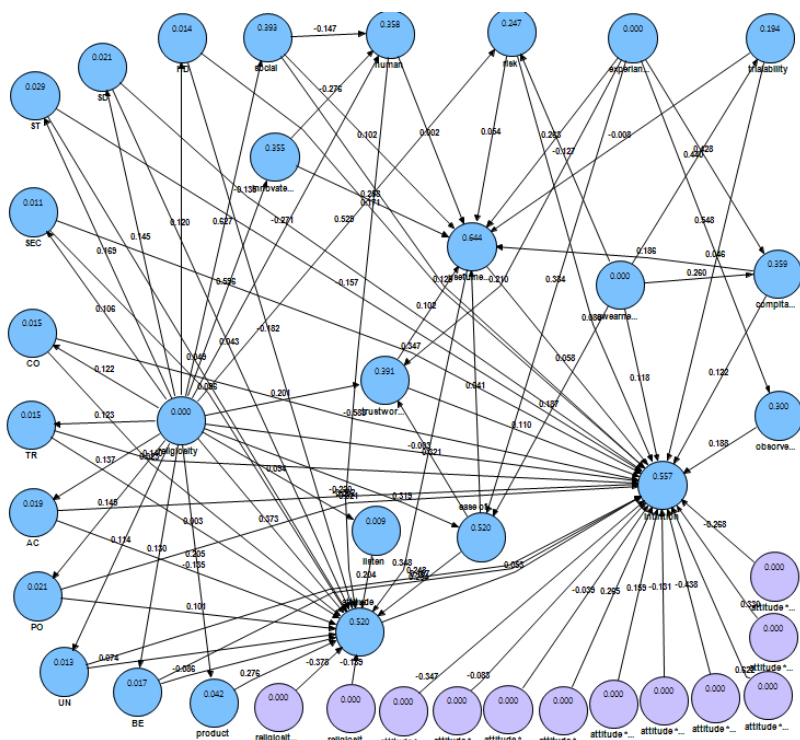


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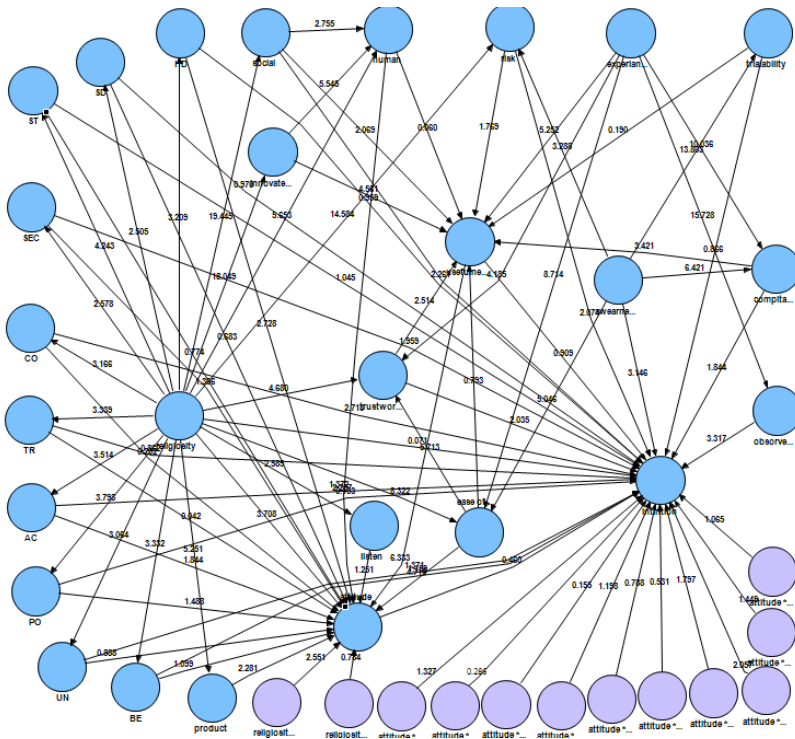




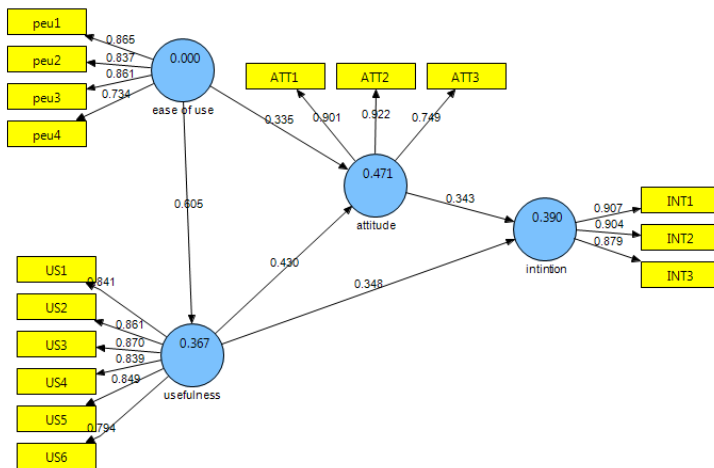
F2 Research Model with R² values.



F3 Research Model with t-values



F4 TAM with R² values



F5 TAM with t-values

