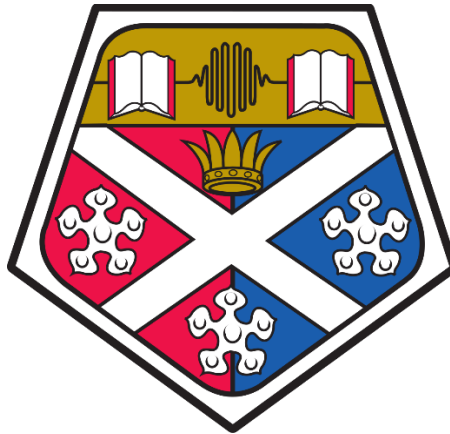


University of Strathclyde

Department of Computer and Information Sciences



Information Seeking Behaviour of UK Retail Banking Customers Towards Online Purchase Adoption: An Integrated UTAUT2 Model

Gertrude Ngozi Ugwu, BEng, MSc

A doctoral thesis submitted in partial fulfilment of the requirements for the
award of the degree of Doctor of Philosophy
University of Strathclyde
United Kingdom

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Signed: Gertrude Ngozi Ugwu

Date: 27 May 2025

Dedication

This thesis is dedicated to the following:

My Principled Father

You were more than a parent; you were my first mentor. You shaped my values, inspired my goals, and believed in me even when I doubted myself. You didn't just raise me, you mentored me. I will always remember your words to me - "*Empowering a child begins with educating the child.*"

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List of Abbreviations

Abbreviation	Meaning
AI	Artificial Intelligence
AML	Anti-Money Laundering
ATT	Attitude
AU	Actual Use
AVE	Average Variance Extracted
BI	Behavioural Intention
CA	Cronbach's Alpha
CB-SEM	Covariance-Based Structural Equation Modeling
CMA	Competition and Markets Authority
COVID-19	Coronavirus Disease of 2019
CR	Composite Reliability
C-TAM-TPB	Combined Technology Acceptance Model and Theory of Planned Behaviour
DTPB	Decomposed Theory of Planned Behaviour
EE	Effort Expectancy
EEIP	Expanded Everyday Information Practices
EIP	Everyday Information Practices
ELIS	Everyday Life Information Seeking
FAQs	Frequently Asked Questions
FC	Facilitating Conditions
FCA	Financial Conduct Authority
FEP3	Facilitating Conditions - Effort Expectancy - Price Value - Perceived Trust - Perceived Information (The Five Pillars of Trust)
FL	Factor Loading
FSA	Financial Services Authority
GDPR	General Data Protection Regulation
H1-H8	Hypotheses 1 to 8
H9-H18	Hypotheses 9 to 18
HB	Habit
HM	Hedonic Motivation
HSBC	Hongkong and Shanghai Banking Corporation
HT	Habit
HTMT	Heterotrait-Monotrait
ID	Identification (Number)
IDT	Innovation Diffusion Theory
IMF	International Monetary Fund
IS	Information Science
IT	Information Technology
KPMG	Klynveld Peat Marwick Goerdeler

MAO	Motivation Ability Opportunity
MGA	Multiple Group Analysis
MM	Motivational Model
MPCU	Model of PC Utilization
MS	Microsoft
MTAM	Mobile Technology Acceptance Model
NEWS	Northern Ireland, England, Wales, and Scotland
OECD	Organisation for Economic Cooperation and Development
OPI	Online Purchase Intention
PBC	Perceived Behavioural Control
PCA	Personal Current Accounts
PCC	Personal Credit Cards
PCs	Personal Computers
PE	Performance Expectancy
PEOU	Perceived Ease of Use
PhD	Doctor of Philosophy
PI	Perceived Information
PL	Personal Loans
PLC	Public Liability Company
PLS-MGA	Partial Least Squares Multi Group Analysis
PLS-SEM	Partial Least Squares Structural Equation Modelling
PM	Personal Mortgages
PRA	Prudential Regulation Authority
PSA	Personal Savings Accounts
PSD	Payment Services Directive
PT	Perceived Trust
PU	Perceived Usefulness
PV	Price Value
PwC	PricewaterhouseCoopers
RO	Research Objectives
RQ	Research Questions
SCT	Social Cognitive Theory
SD	Standard Deviation
SEM	Structural Equation Modeling
SI	Social Influence
SPSS	Statistical Package for the Social Sciences
STAM	Senior Technology Acceptance Model
TA	Thematic Analysis
TAM	Technology Acceptance Model
TAM2	Technology Acceptance Model 2 (An extension of the original TAM)

TAM3	Technology Acceptance Model 3 (An extension of TAM2)
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UK	United Kingdom
US	United States
UTAUT	Unified Theory of Acceptance and Use of Technology
UTAUT2	Unified Theory of Acceptance and Use of Technology 2
VIF	Variance Inflation Factor

Abstract

Digitization has continued to transform the way we live and work. It is steadily changing the UK retail banking sector, where the rapid adoption of digital business models has led to the closure of traditional bank branches, a trend expected to persist. A smooth transition to a digital service model requires a deeper understanding of consumer behaviour.

This study investigates consumer behaviour by integrating the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) with the Everyday Life Information Seeking (ELIS) model as its theoretical framework. A deductive approach was employed, using an online survey distributed nationwide via convenience sampling. A total of 438 responses were received, of which 377 were valid.

Findings from five research questions and 18 hypotheses, tested through PLS-SEM and PLS-MGA, highlight challenges in understanding online information available on bank websites, a lack of well-trained advisors, fear, poor user interfaces and complex purchasing processes as key barriers; and the need for information on security, charges, and requirements for tutorials and glossary of terms.

Many respondents noted that visiting bank branches is the most preferred information source, suggesting consumers lack the knowledge needed to make online purchasing decisions, and quick access and reliability of information are key determinants of channel choice. Younger consumers are more influenced by perceived information, while older consumers rely more heavily on perceived trust.

By integrating UTAUT2 with ELIS, this research advances interdisciplinary collaboration. The proposed integrated model incorporates trust into UTAUT2, a prerequisite for online transactions, and further explores digital information-seeking behaviour through ELIS. Addressing information and trust concerns can enhance technology adoption in financial markets.

The qualitative themes identified could inform interview questions for future mixed-method research. Additionally, larger datasets could support multi-group analysis with three classifications, providing deeper insights than a two-group approach.

CHAPTER 1: INTRODUCTION

1.1 Research Background

Digitization has profoundly transformed and continues to redefine daily life and consumer behaviours globally, significantly altering purchasing patterns. Despite ongoing concerns about privacy and security, e-commerce retail sales have shown a steady increase worldwide. During the second quarter of 2020, e-commerce accounted for 16% of global retail sales (Statista, 2021). In the United Kingdom, with a population of 68.7 million (IMF, 2024), internet sales represented 26.2% of total retail sales as of November 2024 (Office for National Statistics, as cited in Statista, 2024). Notably, approximately 50 million individuals within this population are active e-commerce users (ibid).

This paradigm shift is unquestionably evident in the UK retail banking sector. The swift adoption of digital business models has caused the continued closure of traditional bank branches (Bravo, Martínez and Pina, 2019). An estimated 3,500 retail bank branches were closed across the UK between 2015 and 2020 (Which?, 2021). This trend has accelerated, with around 6,000 branch closures reported since 2015 (Which?, 2024). While branch closures predate the COVID-19 pandemic, the pandemic significantly expedited the process, further driving changes in consumer behaviour. With the rising reliance on digital platforms, the closure of bank branches is anticipated to continue as a significant trend in the years to come. Most recently, Lloyds, Halifax, Barclays, and Bank of Scotland announced plans to close 102 bank branches, with 45 of these closures scheduled for 2025 (Great Britain News, 2024).

The retail banking sector, also known as consumer banking, plays a pivotal role in shaping the lives of individuals and communities, exerting both direct and indirect influences through the services it provides. The overall financial services sector is a cornerstone of the UK economy, contributing significantly to national economic performance. In 2019, the financial services industry contributed £132 billion to the UK economy, accounting for 6.9% of total economic output. By the first quarter of 2020, the industry accounted for approximately 1.1 million jobs, equivalent to 3.2% of total UK employment (Hutton, Chris and Georgina, 2021). In 2023, the UK financial services industry was ranked the fourth largest among Organisation for Economic Cooperation and Development (OECD) countries, based on its share of national economic output

(House of Commons, 2024). Approximately 2.5 million individuals are employed in the UK financial services and related industries, representing 7.6% of the national workforce, with around 362,000 employed specifically in the banking sector (The City UK, 2023).

The sector contributes fundamentally to economic development while simultaneously playing a key role in sustaining public finances. In the fiscal year 2023/24, the sector generated £37.1 billion in tax revenue, accounting for 3.5% of the total tax receipts collected by the UK government during that period (House of Commons, 2024). This substantial contribution emphasises the industry's critical role in supporting public services and funding government initiatives. In addition, the sector's impact on public finances was even more pronounced in 2020, with £75.6 billion raised in taxes. This amount represented 10.1% of the UK's total tax receipts for that year and was equivalent to 3.45% of the UK gross domestic product (The City UK, 2023). These figures highlight the financial services industry's pivotal position as a backbone of the UK economy, reflecting its capacity to generate significant fiscal contributions even amidst periods of economic uncertainty.

Customer experience is increasingly becoming the primary factor that sets financial services apart. Therefore, to stay competitive, a smooth transition to digital services is essential, which in turn requires a deeper understanding of consumer behaviour. Despite the notable economic contribution of the UK banking industry, academic research on its ongoing transformation remains limited (Deloitte, 2020). The need for foundational research and enhanced scientific theories to better understand and predict consumer behaviours within this complex landscape is also emphasised (ibid). A similar assertion is also reaffirmed by the World Retail Banking Report (2022), which highlights further that retail banks are currently lagging behind in delivering a truly personalised customer experience. This viewpoint is further echoed in a recent report by KPMG (2021), which identified customer insight, technology adoption and prioritising digital as key focus areas for retail banks, highlighting the need for greater alignment with customer demands. Furthermore, it is often believed that most changes to retail banking business models are primarily driven by regulatory, legal, audit, and compliance requirements, rather than by customer needs (McKinsey & Company, 2019). To challenge this narrative, it is essential to directly understand the needs and contexts of customers, who are the primary users of the technology.

Retail banks must also develop a critical awareness of the geographical implications of digitization, including the effects of digital inequality and information poverty, as they transition from traditional physical service models to digital platforms. This shift represents a movement from living offline to living online, where services that were once accessible in-person are now primarily offered through digital channels. It is essential for banks to recognize that while digital services are available, they are not universally accessible (International Telecommunication Union, 2021; Thomas, Chowdhury and Ruthven, 2023; 2025). Research has indicated that certain segments of the population, especially those in rural or underserved areas, encounter significant barriers to accessing digital services. According to the Office for National Statistics (2020), 6.3% of adults in the UK had never accessed the internet in 2020, a slight decrease from 7.5% in 2019. However, a geographical divide persists, with London maintaining the highest rate of recent internet usage at 95% in 2020, while Northern Ireland recorded the lowest at 88% (Office for National Statistics, 2020). This disparity highlights the ongoing challenge of digital inequality, where certain regions are more connected than others, exacerbating the gap in access to digital services and contributing to financial exclusion.

Furthermore, understanding consumer behaviour is crucial for developing AI-driven models that can accurately predict future consumer behaviour and actions (Nkomo and Mupa, 2024). For example, by analysing online reviews and customer interactions, businesses can uncover valuable insights into purchasing patterns, enabling them to adjust their offerings accordingly (Nagrath *et al.*, 2021). Improving the capabilities of AI strengthens e-commerce platforms, leading to enhanced customer experiences. Since the effectiveness of AI tools depends heavily on the quality of the data they are trained on, understanding customer requirements becomes crucial in aligning with King (2012) concept of “doing banking” in his work titled “banking is no longer somewhere you go, but something you do”. This narrative was anticipated by Stringfellow *et al.* (2006), as cited in Harker and Paddison (2021, p.84), who stated that “digital and social media skills have entered into being the default situation of consumer behaviour”. Furthermore, “customers expect the same level of service and information regardless of the channel they use” (Finextra, 2024).

Numerous studies have explored consumer behaviour, online shopping, and the intention to purchase consumer products online (Cheema and Papatla, 2010; McCole, Ramsey and Williams, 2010; Saprikis, Chouliara and Vlachopoulou, 2010; Aren *et al.*, 2013; Akroush and Al-Debei, 2015; KPMG, 2017; Rehman *et al.*, 2019; Human, Ungerer and Azémia, 2020; Retnowati and Mardikaningsih, 2021; Erjavec and Manfreda, 2022; Alrawad *et al.*, 2023). However, despite the critical role of the retail banking sector and the inherently sensitive nature of financial products, relatively few studies have specifically examined the behaviour of UK retail banking customers (Asmi and Ishaya, 2012; Sekhon *et al.*, 2015; Mbama and Ezepue, 2018; Ahmed, Bangassa and Akbar, 2020; Dada, 2021; Hanif and Lallie, 2021; Thomas, Chowdhury and Ruthven, 2023).

The retail banking sector has largely been shaped by practitioner-oriented literature rather than rigorous academic research, a gap that warrants immediate attention in the digital and information era. This is especially pertinent in the wake of the 2009 financial crisis, which significantly eroded consumer trust. The COVID-19 pandemic also accelerated the shift towards online purchasing and digital banking services. Addressing this imbalance between practitioner and scholarly contributions is essential to better understand consumer behaviour and to guide the ongoing transformation of retail banking in a digital-first world.

“Banks have historically focused on capturing value and have forgotten about customer experience. Capturing value and profit is not contradictory if a bank focuses on long-term customer relationships.”

(Alexander Weber as cited in World Retail Banking Report, 2022, p.9)

1.2 Customer versus Consumer: Definitions and Usage

The study examined the most appropriate term to use when describing individuals who purchase financial products and services. To determine the most suitable label, the research analysed dictionary definitions of "customer" and "consumer," considering their meanings, the research domain, and the context of the current study. It also reviewed how both terms have been used in previous related studies. This dual analytical approach helped identify the most appropriate term for use in this study. The key differences between the two terms are presented in Table 1.1 below.

Table 1.1: Definitions of customer versus consumer

Label	Dictionary meaning	Keywords	Source
Customer	A purchaser of goods or services	purchaser	Oxford English Dictionary
Customer	A person or an organization that buys goods or services from a shop or business	buyer	Oxford Learner's Dictionaries
Customer	A person who buys goods or a service	buyer	Cambridge Dictionary
Consumer	A person who uses up a commodity; a purchaser of good or service, a customer	User purchaser	Oxford English Dictionary
Consumer	A person who buys goods or services for their own use	buyer own use	Cambridge Dictionary

“By strict definition a consumer is a person who consumes or is the end-user of the product. A customer is a person who purchases something or engages in some form of exchange transaction. A customer can be a consumer but a consumer does not necessarily need to be a customer” (Datta, 2016, p.109).

The following table provides a review of previous related studies, highlighting their respective usage of the terms “customer” and “consumer.”

Table 1.2: Use of customer versus consumer in previous related studies

Title	Author(s)	Term Used
“Understanding the behaviour of the elderly towards internet banking in the UK”	Asmi and Ishaya (2012)	Consumer
“A study on trust restoration efforts in the UK retail banking industry”	Ahmed, Bangassa and Akbar (2020)	Customer
“Elderly and internet banking: An application of UTAUT2”	Arenas-Gaitán, Peral-Peral and Ramón-Jerónimo (2015)	Customer and consumer interchangeably
“What keeps the e-banking customer loyal? A multi-group analysis of the moderating role of consumer characteristics on e-loyalty in the financial service industry”	Floh and Treiblmaier (2006)	Customer
“Modelling consumers’ adoption intentions of remote mobile payments in the United Kingdom: extending UTAUT with innovativeness, risk, and trust”	Slade <i>et al.</i> (2015)	Consumer but used customer sparingly

"Security factors on the intention to use mobile banking applications in the UK older generation (55+). A mixed-method study using modified UTAUT and MTAM with perceived cyber security, risk, and trust"	Hanif and Lallie (2021)	Customer
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The terms customer and consumer have distinct meanings. However, a review of previous studies reveals a lack of clarity in their usage within the context of retail banking research. Some researchers use the term consumer, others use customer, and some use both terms interchangeably to refer to the same concept. This study aims to examine the information-seeking behaviour, experiences, drivers and barriers to the online purchasing of consumer banking products and services. Given the definition of a customer as someone who purchases goods and services, the term "customer" is the most appropriate label to describe the population under investigation. The study focuses on identifying the key determinants of purchase intention rather than use intention, therefore, the primary emphasis is on the direct buyer of the product or service. Furthermore, previous related studies within the same domain of investigation have also used the term "customer" to describe a similar population.

While a customer refers to someone who makes a purchase, a customer buying for personal use is also classified as a consumer. However, in some cases, the end user may not be the direct buyer, either by choice or due to certain barriers. To ensure clarity and consistency, this study predominantly uses the term "customer." However, depending on the context and narrative, the term "consumer" is used where more appropriate. In such cases, the two terms are intended to be understood as synonymous, referring to those buying or using financial products and services.

As retail banks continue to evolve digitally, consumer protection and regulatory oversight become increasingly important. Ranjan (2000) notes that digital banking operates within a highly regulated environment, with governments and regulators adapting to technological advancements to maintain security and compliance. A high-level understanding of the UK banking regulators and their roles is crucial to appreciating how the industry is governed, how financial institutions operate within regulatory boundaries and how consumer interests are protected. As a result, there is a prevailing belief that shifts in retail banking business models are largely influenced

by regulatory, audit, legal and compliance obligations (McKinsey & Company, 2019). The next section provides these insights.

1.3 UK Banking Regulation and Legislation

The financial crisis of 2009 changed the banking landscape which also resulted in the evolution of more financial services regulators in the UK. After the financial crisis, customers' expectations increased considerably, emphasising the importance of customer acquisition and retention while enhancing profitability (Monferrer-Tirado et al., 2016; Bakar, Clemes and Bicknell, 2017). Initially, the UK operated under a single financial services regulator, the Financial Services Authority (FSA). However, in response to the global financial crisis of 2009 and to strengthen the resilience of the financial sector, the UK government introduced a dual regulatory framework. In April 2013, the FSA was replaced by two regulators, namely, the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA). Figure 1.1 below provides a visual representation of the regulatory arms and the associated changes, while the subsequent passage details the responsibilities of each regulatory body. These and other reforms were implemented to restore institutional trust and safeguard the stability of the UK banking system (Financial Services Authority, 2012; Ahmed, Bangassa and Akbar, 2020).

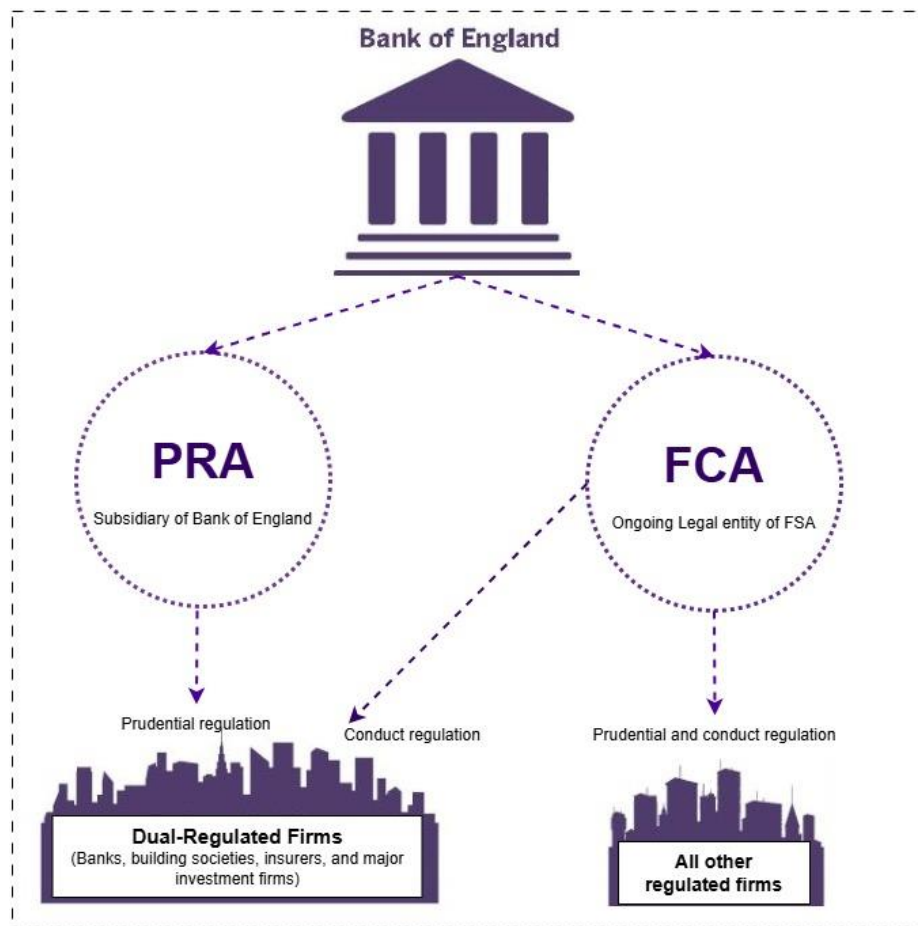


Figure 1.1: The UK financial services regulatory framework
(Adapted from FSA, 2012)

The Prudential Regulation Authority operates as part of the Bank of England, which serves as the central bank of the United Kingdom. The PRA is tasked with supervising financial institutions within the UK by setting regulatory standards aimed at ensuring the stability and safety of regulated firms. It oversees approximately 1,500 firms, including banks, insurers, investment firms, credit unions, and building societies (Bank of England, 2022). In contrast, the Financial Conduct Authority holds the primary responsibility for protecting customers and consumers of financial services and ensuring fair competition among financial institutions. The PRA focuses on firm-level oversight, through ensuring that financial institutions have the right infrastructures in place to minimise risks associated with financial instability. It supervises firms to identify and address potential weaknesses, thereby safeguarding the overall financial system. The FCA, on the other hand, is dedicated to ensuring that consumers are treated fairly. This includes overseeing the handling of customer complaints to ensure timely resolutions, preventing information asymmetry where vendors might exploit informational advantages and fostering transparency (Bank of England, 2021).

Regulatory actions by the FCA and PRA have had substantial indirect impacts on customers. The FCA has advanced financial inclusion by requiring banks to offer Basic Bank Accounts to individuals with low income or poor credit histories. It also empowers consumers to challenge unfair practices. In parallel, the PRA enforces capital adequacy standards to ensure institutional resilience, thereby protecting depositors and strengthening public confidence in the banking system, particularly in the wake of the 2009 financial crisis.

The Competition and Markets Authority (CMA), as the UK's competition regulator, was established in April 2013 through the merger of the Office of Fair Trading and the Competition Commission. The CMA's primary mandate is to promote competition among businesses for the benefit of consumers. Its responsibilities include ensuring that consumers have access to a diverse range of choices and are empowered to make informed decisions. Unlike the PRA and FCA, which focus on the financial services sector, the CMA's scope extends across various industries and operates as an independent body with authority that extends beyond the UK. Despite their differing remits, the CMA and FCA share a commitment to ensuring fair treatment for consumers (Competition and Markets Authority, 2021; Wikipedia, 2021).

In addition to adhering to PRA and FCA regulations, UK banking institutions must comply with various international and domestic regulatory frameworks. These include the UK General Data Protection Regulation (UK GDPR), the Data Protection Act 2018, the Anti-Money Laundering (AML) Act, and the Payment Services Directive (PSD), among others. These regulations collectively contribute to maintaining consumer protection, financial stability, and ethical business practices.

While the CMA and the FCA play a critical role in ensuring fair treatment of consumers, it is imperative to recognize that proactive risk prevention and mitigation are substantially more cost-effective than reactive risk management. A thorough understanding of customer needs, coupled with a strategic approach to addressing them, can enhance market competition. This, in turn, advances the objectives of the CMA while simultaneously alleviating the financial and administrative burdens on the FCA. This forward-looking strategy not only strengthens customer protection but also minimises compliance costs, regulatory penalties and compensation liabilities for banks thereby, promoting financial system stability and long-term resilience. These

considerations have also informed the formulation of the following research problem, from which the subsequent research objectives have been developed.

1.4 Problem Statement

The concept of online purchase intention refers to the extent to which a customer is willing or prepared to buy a specific product or service through online channels. (Van Der Heijden, Verhagen and Creemers, 2001).

Customer expectations of their banks are steadily increasing, yet banks are struggling to keep pace with evolving consumer behaviours. As a result, in-person branch transactions continue to be highly valued by many customers (World Retail Banking Report, 2022). The products and services provided by retail banks, mostly intangible and more sensitive compared to other retail products, makes it imperative to navigate the evolving landscape of digitization with a keen awareness of changing consumer behaviour and preferences. Customers prioritise channels and interactions that allow them to reach their desired solution in the quickest and most efficient way possible (King, 2010; p16). Customers in the information and digital age are empowered by increased choices, enhanced access and faster, more efficient methods of service delivery (Ibid).

Although a growing percentage of the UK population has internet access (Office for National Statistics, 2020), access to the internet does not necessarily equate to digital literacy, and digital literacy does not guarantee financial literacy (Thomas, Chowdhury and Ruthven, 2025). Given the decreasing number of bank branches on UK high streets, with many more earmarked for closure (Which?, 2021; 2024; BloombergUK, 2025), and despite in-branch visits remaining the preferred method of engagement due to unsatisfactory customer experiences (World Retail Banking Report, 2022; 2024), there is a critical need to explore the factors influencing the acceptance of online purchasing among UK retail banking customers.

According to the British Banking Association and the Office for National Statistics, as cited in House of Lords (2025), the number of bank and building society branches in the UK declined from 21,643 in 1986 to 6,870 in 2024. Figure 1.2 illustrates this trend.

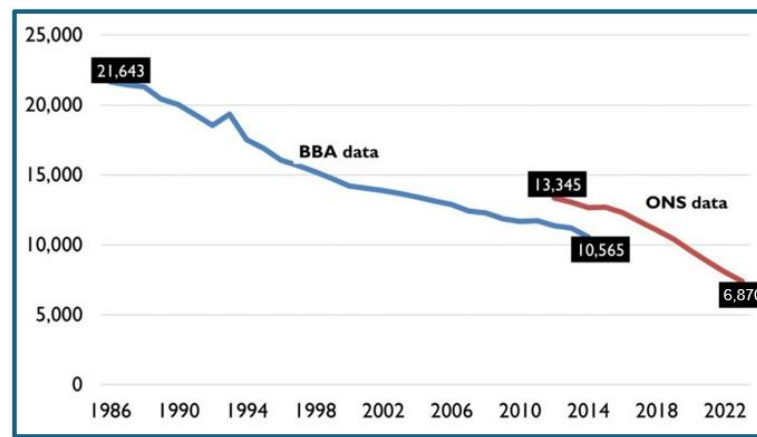


Figure 1.2: Decline in UK bank branches (1986–2024)

Understanding customers' pre-purchase information-seeking behaviours, along with the key drivers and barriers to online purchasing of financial products, is essential. This understanding can be leveraged to refine design, enhance development processes and optimize marketing strategies, ensuring they meet customers' needs and expectations. Additionally, this approach ensures that customers' needs and expectations are incorporated into the design of processes and applications, thereby ultimately fostering the adoption of online purchasing and diminishing the reliance on physical bank branches.

While numerous studies have examined the application, extension, and integration of technology acceptance models like UTAUT (Venkatesh *et al.*, 2003) and UTAUT2 (Venkatesh, Thong and Xu, 2012), their application within the banking sector remains underexplored. Although these models have been adapted to various domains, there is a clear need for further exploration within UK retail banking. To better align the current UTAUT2 model with the retail banking context, this research introduces two additional constructs, perceived information and perceived trust. These constructs, as detailed in chapter two, have been identified in prior studies as essential to understanding consumer behaviour but are currently absent from the base UTAUT2 model.

Previous research emphasised the importance of information seeking as a critical step in the online purchasing process (Tsao and Chang, 2010; Demangeot and Broderick, 2016; Akalamkam and Mitra, 2018; Shah and Paul, 2020). Similarly, trust, which plays a key role in alleviating the complexities of e-commerce (Qureshi *et al.*, 2009), has

been extensively examined by researchers (Pavlou, Liang and Xue, 2007; Oliveira *et al.*, 2014; Singh *et al.*, 2017; Singh and Matsui, 2017; Singh and Sinha, 2020). Both factors are critical to understanding consumer behaviours in both traditional and digital purchasing contexts, making them vital additions to the exploration of the factors that influence the acceptance of online purchasing of banking products and services within UK retail banking.

1.5 Research Aim and Objectives

1.5.1 Research Aim

This research aims to enhance the experiences of UK retail banking customers by understanding the factors influencing acceptance of online purchasing, their pre-purchase information seeking behaviour, and the drivers and barriers to online purchasing.

1.5.2 Research Objectives (RO)

The following objectives were developed in alignment with the above research aim:

RO1. To understand the types of information sought by UK retail banking customers leading to the initiation of a purchasing agreement.

RO2. To identify the information sources preferred by UK retail banking customers.

RO3. To gain insights into the factors that influence UK retail banking customers' choice of information sources and channels in the context of the theories and models of information behaviour.

RO4. To identify and highlight the factors that motivate UK retail banking customers' choice of online purchasing by determining the critical elements that positively impact online purchase intention.

RO5. To empirically authenticate the study framework (Integrated UTAUT2) against the acceptance of online purchasing within UK retail banking.

RO6. To gain insights into the difficulties, experiences and expectations of UK retail banking customers when purchasing online.

RO7. To understand, from customers' perspectives, how UK retail banking institutions can enhance trust in online purchasing.

1.6 Research Questions (RQ)

Drawing on the review of existing literature and aligned with the research aim and objectives outlined in the previous subsection, the following research questions were proposed:

RQ1. What are the information needs of UK retail banking customers before engaging in online purchasing?

RQ2a. What are the preferred primary information sources used by UK retail banking customers before engaging in online purchasing?

RQ2b. What are the reasons and considerations behind the choice of primary information sources?

RQ3. What factors motivate UK retail banking customers' acceptance of online purchasing based on the proposed research model?

RQ4. How can UK retail banking institutions increase customers' trust towards the acceptance of online purchasing?

1.7 The Research Scope

1.7.1 Technology Coverage

In this research, online purchase refers to customers using the internet through a web browser to directly enter into an agreement with a financial services provider to acquire a financial product or service. This definition encompasses all devices (e.g., PCs, laptops, mobile phones, and tablets) that require a web browser installed and utilise web technologies. However, the intention to purchase via mobile apps that rely on the provider's underlying platform and not solely on web browsers is outside the scope of this research. The terms online purchase, internet purchase, and web purchase may be used interchangeably throughout this study to convey the same meaning. The following considerations informed the decision to focus exclusively on online purchasing:

A significant finding in the literature is that online shopping via web browsers offers a more extensive customer experience. For example, Manandhar (2023) emphasises that online shopping involves direct interaction between customers and sellers via a computer-based interface, made possible through the web. The importance of usability is reinforced in the works of Mahardika *et al.* (2018), which examined how user experience factors, such as ease of use, are positively associated with customer satisfaction when shopping online through web browsers. Other researchers have also highlighted that web browsers offer a more effective platform for online purchasing than mobile applications (Khare, Singh and Khare, 2010; Fagerstrøm, Ghinea and Sydnès, 2016).

Additionally, a number of studies are focused on mobile shopping, largely due to its lower adoption rate compared to web-based purchasing (Morga, 2016). This trend can be attributed to the fact that e-commerce has been established for a longer period before the rise of mobile commerce. However, mobile commerce has not proven suitable for all age groups. For instance, the elderly and vulnerable populations often struggle with using small devices for online purchases, mainly due to the limited screen size of most mobile devices. This issue becomes even more significant as banks continue to accelerate the closure of physical branches, leaving these groups in need of alternative options.

Moreover, mobile apps tend to offer fewer choices, and less information compared to websites, which limits the options available to customers. Some users may also lack the trust necessary to engage in high-value transactions via mobile apps, as these platforms provide limited information (Heinze, 2016). In contrast, larger screens are associated with greater ease of use and provide a sense of control during transactions, which helps reduce perceived risk and positively influences effort expectancy. Additionally, customers' familiarity with websites and various web browsers further contributes to ease of use and reduces security concerns.

The purchase of financial products typically involves more stages and checks than the purchase of most other consumer products. It can be argued that consumers purchase banking products less frequently than they use banking services. For instance, using mobile banking services typically follows the purchase of banking products. As a result, consumers are more likely to use a device or platform that provides more information and options for making purchases, while they may revert to mobile applications for daily transactions, such as bill payments and other frequently used services.

Similarly, many studies have examined consumers' attitudes toward the adoption of mobile banking services. However, the critical stage of initiating a buyer-seller relationship is always a concern. Therefore, this research focused on the initiation of an agreement and limits its scope to investigating the acceptance of purchasing through web browsers. This decision also benefits older and vulnerable groups who may not be comfortable using small devices like smartphones. This is exemplified in the work of Yu (2014), who suggested that internet banking is preferred over mobile banking in terms of self-efficacy, relative compatibility, and both technology and

resource facilitating conditions. Recent research by The Financial Brand (2020) revealed that in the year 2020, 82% of financial institutions had the technological resources to support the online purchase of checking accounts, while only 38% of the institutions surveyed had the technological support for mobile banking.

1.7.2 Product Coverage

The research examined five of the most purchased consumer banking products, encompassing both liabilities and assets. According to Perkhailo (2023), consumer credit is among the most widely offered banking products globally. From the bank's perspective, liabilities represent what the bank owes to its customers, while assets refer to what the bank owns or what is owed to the bank by its customers. The five core products within the scope of the study include Personal Savings Accounts (PSA), Personal Current Accounts (PCA), Personal Loans (PL), Personal Credit Cards (PCC) and Personal Mortgages (PM).

This selection provided comprehensive coverage of both liabilities and assets, with personal savings and current accounts categorised as liabilities, and lending products such as personal loans, credit cards and mortgages classified as assets (Gopinath, 2005). These products play a vital role in the everyday lives of consumers, supporting both individual financial well-being and broader economic stability. Across the UK, there are approximately 100 million personal current accounts, and retail deposits total around £1.5 trillion, highlighting their continued significance in driving economic activity. Meanwhile, UK households also carry significant financial commitments, with mortgage debt nearing £1.6 trillion and consumer credit standing at approximately £198 billion (FCA, 2022).

The research also considered products across a spectrum of transaction values, also known as case size, categorised as either low-value or high-value. Mortgages were identified as high-value products, while personal savings accounts, current accounts, and credit cards could represent either high or low value depending on the transaction size. For personal loans, where most retail banks cap lending at £25,000, this has also been classified as low value for the purposes of this research work.

This selection of products ensured a balanced representation of both high-value and low-value assets, as well as a mix of secured lending (mortgages) and unsecured lending (personal loans). By including this diverse range of products, the study effectively captured a broad and representative cross-section of the consumer banking landscape.

1.7.3 Theoretical Scope

The theoretical foundation for this research is based on the UTAUT2 model (Venkatesh, Thong and Xu, 2012), which was adapted to identify the factors influencing the adoption of online purchasing within the context of UK retail banking. Additional constructs and moderators, deemed highly relevant for understanding consumer behaviour in this context, were incorporated into the model.

Perceived information has been recognized as a critical component of consumer behaviour (Chung, Wu and Chiang, 2013; Chaturvedi, Gupta and Hada, 2016), while perceived trust is considered essential for the adoption of electronic service offerings (Beldad, De Jong and Steehouder, 2010). Trust also plays a key role in building strong relationships between customers and vendors (Reichheld and Scheffer, 2000). Moreover, location and income were included as moderators, based on their relevance highlighted in prior research (Hernández, Jiménez and José Martín, 2011; Masele and Taluka, 2017; Statista, 2021) .

Behavioural intention, used interchangeably with purchase intention, was adopted as the dependent variable, in line with the UTAUT2 model. Subsequent chapters will expand on the significance of the newly introduced constructs and moderators, exploring their impact on online purchasing within the UK retail banking sector. The effect of perceived information was examined through the lens of the problem-specific Everyday Life Information Seeking (ELIS) model (Savolainen, 2010a). Perceived information examines how customers perceive bank-generated information to inform their financial purchasing decisions. The focus is specifically on the information provided by the bank, rather than customer-generated content, except for customer reviews.

1.7.4 Geographical Scope

The geographical scope of this research covers the four constituent jurisdictions of the United Kingdom, namely Northern Ireland, England, Wales, and Scotland (hereafter

referred to as NEWS). The target population comprises individuals who are primarily resident in the UK. These individuals must currently hold at least one financial product or service specified as within the scope of this study in Section 1.7.2 of this chapter. Additionally, the product or service must have been acquired from a UK retail banking institution, defined within the Banking Act 2009 as an entity incorporated in, or established under the laws of, any part of the United Kingdom (The National Archives, 2016). Figure 1.2 provides a diagrammatic representation of the geographical scope of the research which formed the foundation for identifying the target population and developing the sampling strategy utilised in the study.

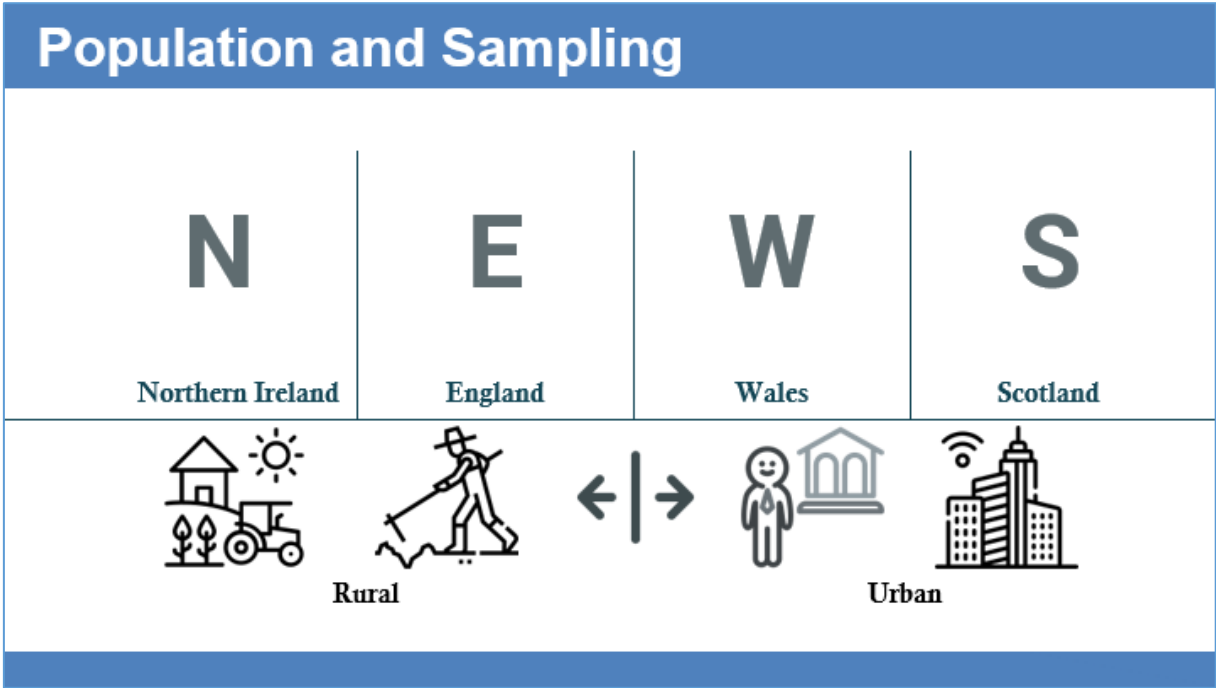


Figure 1.3: The research geographical scope
(Flaticon, 2023)

1.8 Research Contributions

This research makes significant contributions to the existing body of knowledge by offering new insights and expanding upon established theories. It develops a conceptual model that advances technology adoption frameworks by integrating the concept of Everyday Life Information Seeking (ELIS) behaviour into the study of technology adoption in retail banking. Furthermore, the study empirically validates the proposed conceptual model, providing a foundation for understanding consumer behaviour and interactions in the context of information seeking and online purchasing of financial products and services.

In addition, the research offers a comprehensive analysis of the drivers and barriers to online purchasing within the UK retail banking sector. It also includes the views, and examines the information needs, perceptions, challenges and experiences of consumers who have yet to adopt or engage with online purchasing in the sector, identifying strategies to enhance trust in online information seeking and purchasing. Finally, Subsection 1.10, Table 1.3 presents some research outputs, including a prospective journal article titled *“The Sea in Which We Swim: The path to and beyond UTAUT2 in understanding consumer acceptance of technology in financial services markets”*, which is intended for submission to the Journal of Marketing Theory. This work is currently in progress.

Collectively, these contributions deepen the theoretical understanding of consumer behaviour in the context of retail banking, with a particular emphasis on the UK market. Consequently, this study not only lays the foundation for future research but also provides practical recommendations for industry practitioners. By fostering interdisciplinary and multidisciplinary collaboration, the research advances both academic inquiry and practical application in the evolving landscape of retail banking.

1.9 Thesis Summary and Outline

Chapter 1: Introduction

This chapter provides the context for the research by introducing its background, problem statement, and the gaps it seeks to address. It outlines the research aim, objectives, and questions while defining the scope of the study. Additionally, it highlights the key contributions of the research and concludes with a summary of related presentations and publications produced as part of the research output.

Chapter 2: Literature Review

This chapter reviews existing literature to develop the conceptual framework and hypotheses of the study. It discusses previous related studies in UK retail banking, highlighting the challenges in purchasing financial products online. Additionally, it examines technology acceptance and information-seeking theories and models, identifying gaps and limitations in existing models. The chapter justifies the selection of UTAUT2 and ELIS models, proposing their integration to provide a more comprehensive understanding of consumer behaviour within the domain of investigation.

Chapter 3: Research Methodology

This chapter describes the methodology adopted for the investigation, detailing the approaches and strategies used to address the research questions. It covers the adopted research philosophy, the chosen methodological framework, instrument design, sampling strategy and the data collection process, along with the specific tools and techniques employed in the empirical investigation, providing justifications for each selection.

Chapter 4: Data Analysis and Results

This chapter provides a comprehensive overview of the data analysis process, including statistical tests and thematic analyses. Following the methodology outlined in Chapter 3, it describes the steps taken for each tool and presents the results of descriptive analysis, statistical tests and thematic analyses.

Chapter 5: Findings and Discussion

This chapter presents the findings from the analyses conducted and presented in Chapter 4, discussing how they relate to existing literature. It begins with an overview of the research aim, objectives, research questions and hypotheses. The chapter then interprets the key findings, linking each to the corresponding research question and/or hypothesis in relation to existing literature.

Chapter 6: Contributions and Conclusion

This concluding chapter summarises the purpose and focus of the research, outlining its theoretical and practical contributions. It discusses the broader implications of the findings, especially for the UK retail banking and financial services sector. Finally, the chapter highlights the limitations of the study and proposes opportunities for future research.

1.10 Publications and Presentations

Table 1.3: Associated research outputs

No.	Date	Type	Event	Title
1.	July 2022	Conference Paper	Engineering Convention – University of the West of Scotland	Information Seeking Behaviour of UK Retail Banking Consumers Towards Online Purchase Adoption: An integrated UTAUT2 model (Ugwu, Chowdhury and Harker, 2022)

2.	June 2023	Conference Paper	University of Strathclyde Doctoral School Multi-Disciplinary Symposium	Information Seeking Behaviour of UK Retail Banking Consumers Towards Online Purchase Adoption: An integrated UTAUT2 model (Ugwu, Chowdhury and Harker, 2023)
3.	June 2023	Presentation	Barclays PhD Sandpit Session	5-Minute Oral Research Brief: Insights for academic and industry stakeholders
4.	March 2024	Presentation	Barclays Careers and Development Launch Event	Bank Branch Closures: Checking who is left behind
5.	June 2024	Conference Paper	Canadian Association of Information Science (Proceedings of the Annual Conference of CAIS/Actes du congrès annuel de l'ACSI)	Customers' Intention to Adopt Online Purchasing in UK Retail Banking: Integrating information practices and trust (Ugwu, Chowdhury and Harker, 2024a)
6.	July 2024	Conference Paper	Information Science Trends 2024	Digital and Physical Worlds: Exploring consumer information needs during UK bank branch closures (Ugwu, Chowdhury and Harker, 2024b)
7.	In progress	Journal Article	Journal of Marketing Theory	The Sea in Which We Swim: The path to and beyond UTAUT2 in understanding consumer acceptance of technology in financial services markets (Ugwu, Chowdhury and Harker)

1.11 Chapter Summary

This chapter outlined the background of the research and articulated the problem statement, identifying the specific gaps the study seeks to address. This foundation informed the formulation of the research aim and objectives, which guided the development of the research questions. The chapter also delineated the scope of the study, followed by an overview of the key contributions made by the research. Finally, it presented the structure of the thesis and concluded with a summary of formal and informal presentations and publications produced as part of the research work.

CHAPTER 2: LITERATURE REVIEW

2.1 Chapter Overview

This chapter provides a review of the existing literature, followed by a detailed description of the conceptual model of the study and then presents the hypotheses developed. The literature review encompasses findings from prior academic studies, banking reports and government publications. The review is organised into three broad areas covering banking, technology acceptance models and information-seeking models.

The chapter begins with an overview of the research aim, which serves as the guiding framework for the literature review. It then explores the current state of technological innovation in UK retail banking, the benefits and challenges associated with online purchasing of consumer banking products and services. The section includes a review of relevant research in the banking sector and concludes by identifying gaps within the sector and existing studies.

Next, the chapter reviews various technology acceptance models, outlining the limitations of each and justifying the selection of UTAUT2 for the current study. It also addresses the limitations of the UTAUT2 model and discusses how the current research aims to bridge these gaps. Following this, the chapter examines information-seeking behaviour, explores models of information seeking, and justifies the choice of the ELIS model for the study. The limitations of the ELIS model are discussed, along with how the partial integration of ELIS with the UTAUT2 model aims to address the identified research gaps.

The chapter concludes with a discussion of the conceptual framework for the research and presents the research hypotheses.

2.2 Scope and Steps to Literature Review

In the rapidly evolving and competitive landscape of online retailing, gaining a deep understanding of consumer behaviour has become more essential than ever (Karimi, 2013). This study aims to understand the experiences of UK retail banking customers by examining the key drivers and barriers to online purchasing while also exploring their information-seeking behaviour. Consequently, the research extends across three distinct areas: finance, technology acceptance and information behaviour, shaping the

review and synthesis of literature to ensure that the investigation effectively addresses the research questions posed.

Firstly, the research reviews and analyses scholarly literature, government publications, reports from financial services auditors and regulators; and industry reports relating to the primary domain of investigation. This includes an analysis of literature on UK retail banking innovation and consumer behaviour within the sector. Secondly, to identify the key factors influencing online purchase adoption in the UK retail banking sector, the study reviews existing literature on technology acceptance models and theories. Finally, to understand consumers' information-seeking behaviour and the role of information in online purchase decision making, relevant models of information-seeking were examined, leading to the selection of the most suitable framework for this research context.

The study, therefore, uniquely integrates concepts from two well-established research fields, technology acceptance and information behaviour, to generate new insights within the domain of finance, specifically the UK retail banking sector. Figure 2.1 illustrates this interdisciplinary approach which includes banking and finance, information behaviour and technology acceptance. According to Pohl *et al.* (2021), interdisciplinary research operates on a spectrum, from researchers integrating concepts and methods from other disciplines to solve a specific research problem to the creation of new frameworks applicable across multiple fields. Such interdisciplinary investigations are essential for fostering knowledge sharing and addressing research problems both within a specific discipline and across disciplinary boundaries (Van den Besselaar and Heimeriks, 2001; Pohl *et al.*, 2021).

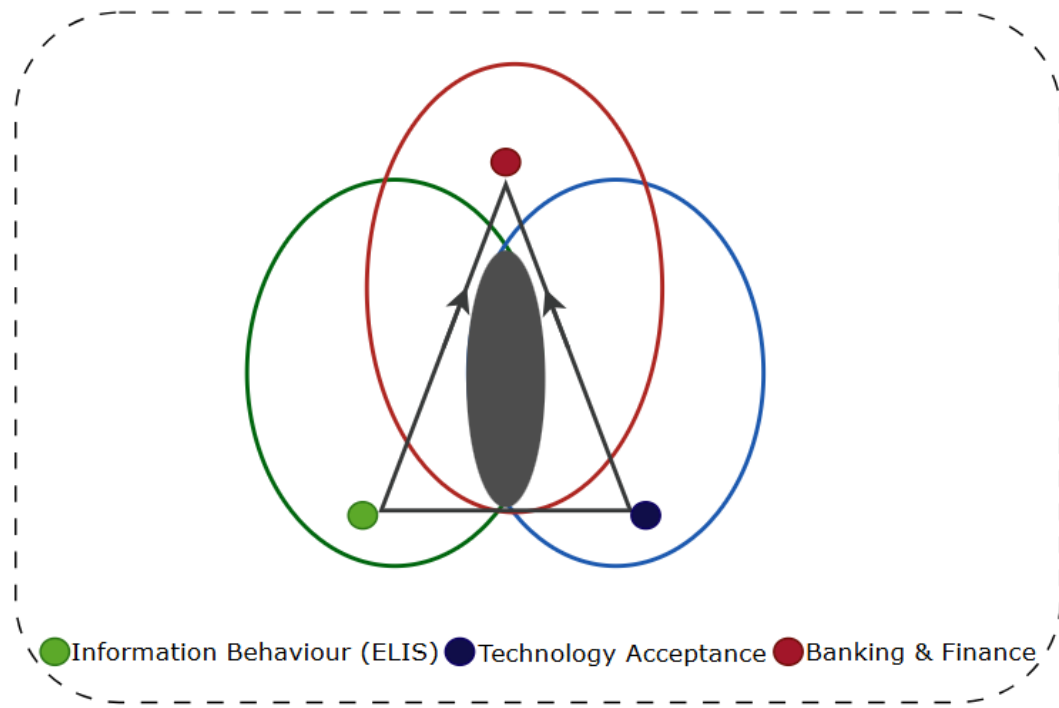


Figure 2.1: Conceptualisation of the research interdisciplinary literature review

The following section examines the state of technological innovation in the UK retail banking sector, highlighting the advantages and challenges of purchasing consumer banking products and services online. It also reviews relevant studies within the banking industry and concludes by identifying gaps in both the sector and existing research.

2.3 UK Retail Banking and Technological Innovation

A bank is defined as “an organization where people and businesses can invest or borrow money, exchange currency, and access other financial services, or a building where these services are provided” (Cambridge Dictionary, 2021a). According to the UK Banking Act 2009, a bank is a UK-based institution authorised under Part 4A of the Financial Services and Markets Act 2000 to accept deposits and is classified as a credit institution (The National Archives, 2016). A retail bank is described as “a bank that provides services to individuals and the general public rather than large corporations or organizations” (Cambridge Dictionary, 2021b). Retail banks, also referred to as consumer banks, focus primarily on personal banking services tailored to individual customers.

The banking system of the United Kingdom is among the largest globally, ranking first in Europe and fourth worldwide (Corporate Finance Institute, 2021). With over 300

banking institutions, the Bank of England serves as the UK's central bank, overseeing monetary policy and financial stability. The four largest banking entities include HSBC Holdings, Barclays PLC, Lloyds Banking Group, and The Royal Bank of Scotland (Ibid). Banks are pivotal to economic growth, acting as intermediaries between savers and borrowers, facilitating transactions and providing credit. In both the UK and globally, retail banks hold significant importance, with nearly all adults maintaining some form of banking relationship, highlighting the sector's central role in everyday financial activity.

Banks are service providers whose financial success depends on customers' perceived service quality and experience (Andaleeb, Rashid and Rahman, 2016). Changing consumer behaviour remains a key driver of the profound transformation taking place in the retail banking sector (Pousttchi and Dehnert, 2018). The retail banking sector faces mounting competition and challenges from non-financial organizations now offering retail banking products and services that appeal to consumers (Baumann, Elliott and Burton, 2012). The advancement of technology in the banking sector has profound implications for banks' marketing strategies and customer engagement (Dootson, Beatson and Drennan, 2016).

Studies have investigated factors affecting the banking industry (Borges, Marine and Ibrahim, 2020; Haralayya, 2021; Lv, Du and Liu, 2022; Taoana, Quaye and Abratt, 2022), with some focusing specifically, though limited in scope, on technology-related factors within the UK retail banking sector (Jayawardhena and Foley, 2000; Mogaji, Farinloye and Aririguzoh, 2016; Hodson, 2021). Technological innovation has led banks globally to adopt the internet as a primary channel for delivering products and services. The retail banking sector faces increasing competition alongside rapidly evolving consumer behaviour and continuous advancements in technology. These changes highlight the need for both industry and academic research. Such efforts are crucial to help banks align their innovations with emerging consumer needs and preferences. This sentiment has been echoed in previous research and through the world retail bank report. Understanding the factors that drive consumers' continued engagement with and use of online services enables banks to enhance service quality, foster greater stability and achieve long-term organizational success (Karimi, 2013; Bello-Pintado, Kaufmann and Merino Diaz de Cerio, 2018; Kumar, Sujit and Charles,

2018; World Retail Banking Report, 2022). The next section therefore highlights the benefits of online purchasing, not only for banks but also for consumers and society.

2.4 Benefits of Online Purchasing

Online purchasing differs significantly from traditional shopping, which relies on face-to-face interactions between buyers and sellers. Despite the absence of these physical exchanges, online shopping offers clear benefits, including the flexibility to shop anytime and from any location. Consumers can quickly access a wide range of products, evaluate the product quality, compare prices from different competitors, and discover unique or hard-to-find items (Vijayasarathy and Jones, 2000). However, the online environment also presents unique challenges, such as the inability to physically inspect products or receive in-person advice. Nevertheless, online purchasing remains advantageous, as highlighted in a study by Atchariyachanvanich, Sonehara and Okada (2008), which explored both the intrinsic and extrinsic benefits of continued online purchasing among South Korean consumers.

2.4.1 Benefits to Customers

For customers, the ability to purchase online brings a revolutionary shift in convenience and accessibility, offering a seamless experience, especially when the interface is intuitive and supporting features like secure transactions and efficient customer service are well-integrated. One of the most significant advantages is the ability to conduct transactions at any time, from any location, removing the constraints of traditional banking hours or geographic proximity. Customers benefit from a wider selection of products and services, as online platforms encourage competition among vendors, often resulting in better pricing and exclusive discounts. According to Al-Debei, Akroush and Ashouri (2015) purchasing online allows customers to gather and compare detailed product information, making it easier to evaluate different options and enhancing overall convenience.

Transparency is another key benefit, as online platforms provide easy access to product reviews, price comparisons, and vendor ratings, empowering customers to make informed decisions. Secure and diverse payment options further enhance confidence in online transactions. Digital platforms also offer enhanced customer support through features like live chat, chatbots, and comprehensive FAQs, ensuring immediate assistance when needed. Moreover, online purchasing fosters sustainability by reducing paper usage and minimizing the environmental impact of

physical operations. It also encourages the development of digital literacy skills, empowering customers to navigate the digital economy more confidently. Personalised experiences, such as tailored recommendations based on browsing history and preferences, further enhance customer satisfaction.

2.4.2 Benefits to Banks

The adoption of online purchasing channels offers substantial advantages to banks, positioning them to operate more efficiently and competitively in a rapidly evolving financial landscape. One of the primary benefits is cost efficiency, as banks can significantly reduce operational expenses by managing fewer physical branches and employing fewer on-site staff. Additionally, online channels enable banks to extend their geographical reach, providing services to a wider audience, including rural and underserved areas, without the need for physical infrastructure.

The speed of service delivery is another critical advantage, as online platforms allow for instant transactions, meeting the growing demand for convenience among consumers. Moreover, digital channels enhance brand visibility, solidifying banks' reputation as modern, technologically adept institutions. The data collection capabilities of online platforms further allow banks to gather valuable consumer insights, enabling the development of personalised services and targeted marketing strategies. Enhanced fraud detection and security systems built into online channels ensure safer transactions, bolstering consumer trust. Furthermore, banks can diversify revenue streams by offering innovative digital services, such as financial planning tools and investment platforms, which cater to tech-savvy customers.

2.4.3 Benefits to Society

At the societal level, the integration of online purchasing channels into the economy brings about widespread advantages that contribute to broader social well-being. Environmental sustainability is a key benefit, as the reduction in physical travel to stores significantly decreases carbon emissions, contributing to a healthier environment. Online platforms also bridge the accessibility gap for underserved communities, particularly in rural or remote areas, providing access to products and services that were previously unavailable.

The digital economy fosters economic growth by creating job opportunities in sectors such as e-commerce, IT support, and logistics. Furthermore, online purchasing

facilitates cultural exchange by enabling global accessibility, allowing individuals to acquire goods and services from different parts of the world, thereby fostering cross-cultural interactions. Financial inclusion is another key benefit, as online platforms lower barriers for individuals without access to traditional banking, making financial services more accessible. In many cases, this promotes fairness and equal access to financial opportunities, reaching excluded groups and communities, provided that factors like digital literacy, financial literacy, and broadband availability are also addressed.

The reduction in footfall within urban centres alleviates congestion and reduces the strain on commercial hubs, contributing to better urban planning. During public health crises, such as the recent COVID pandemics, online purchasing provided a safe alternative to in-person shopping, minimizing the risk of disease transmission. Finally, online platforms empower consumers by increasing their awareness of their rights and equipping them with the knowledge to make better purchasing decisions, thereby fostering a more informed and equitable society.

However, despite these advantages, the online purchasing of financial products presents its own set of challenges, which must be addressed to ensure a seamless, safe and secure experience for customers. These challenges are discussed in the next section.

2.5 Challenges to Online Purchasing of Financial Products

While online purchasing offers numerous benefits, it also presents unique challenges. One significant drawback is the absence of personal interaction, which can hinder consumers from receiving immediate assistance or guidance. Consumers may feel uncertain about choosing the right product, such as a mortgage, loan, or insurance policy, without the guidance of a financial advisor (Masterson and Emmanuel, 2022). Additionally, the potential for fraud in online financial transactions is a significant concern, as hackers and scammers target online banking and financial services. Identity theft, phishing schemes, and fraudulent websites are all risks that deter some consumers from purchasing financial products online (Brands and van Wilsem, 2021). Privacy and security concerns around the sharing of sensitive financial data only amplify these fears, making it essential for financial institutions to implement strong encryption and secure payment methods.

Another key challenge is the hidden costs of internet connectivity, which can limit access to online financial products, especially for those in rural or underserved areas (Office for National Statistics, 2020; International Telecommunication Union, 2021). Poor internet access may hinder consumers from completing their transactions or accessing important product information. Financial institutions also face challenges with maintaining regular updates to hardware and software infrastructures to ensure that their online platforms are secure, fast, and user-friendly. For example, the complexity of the financial products themselves often requires that platforms stay up to date with regulatory changes, making continual upgrades essential but costly for banks.

Furthermore, the absence of clear standardization in the presentation of financial products online may confuse consumers, who struggle to compare different options for products such as loans, savings accounts, and insurance plans. This can result in consumer frustration and hesitation to make decisions. Logistical barriers such as the complexity of verifying personal information and understanding changes in financial regulations can hinder the online purchasing process. Consumers purchasing financial products online may face long wait times for approval or verification and may experience challenges when it comes to returning or amending policies, as financial products are typically more difficult to modify, or change compared to physical goods.

Additionally, concerns arise regarding the potential disadvantages faced by certain consumers, particularly those unfamiliar with navigating online platforms (Dhanapal, Vashu and Subramaniam, 2015; Çera *et al.*, 2020). The digital literacy required to navigate financial product websites is often more advanced, creating difficulties for some customers, particularly older individuals, in understanding terms, conditions, and product details (Thomas, Chowdhury and Ruthven, 2023). Such challenges stress the importance of understanding consumer behaviour in online purchasing contexts to ensure that the needs of diverse consumer groups are met and to maximize the benefits of online channels. Given that financial products are typically more complex and impactful than everyday consumer goods, addressing these challenges is essential for banks to provide a seamless, secure and inclusive digital experience for all customers. Karimi (2013) also highlights these issues, stating that financial institutions can enhance the advantages of online purchasing by improving

accessibility, convenience and overall customer satisfaction. The next section discusses the current state of the art of online purchasing within UK retail banking, exploring how banks are adapting to the evolving digital landscape.

2.6 Online Purchasing within UK Consumer Banking

The transition of financial services and banking into the digital space is a natural progression within the context of advanced information technology. Both consumers and financial institutions are embracing digital tools and platforms due to the inherent convenience, the evolving nature of consumer behaviour, the timely dissemination of information and the potential for significant reductions in operational costs. For many UK retail banks, the shift to digital-first models has become a primary driver of branch closures, enabling them to enhance operational efficiency while aligning with changing customer preferences.

One notable development in this digital shift is the increasing prevalence of online account openings. Research from the Digital Banking Report, as presented by The Financial Brand (2020) shows that 82% of financial institutions offered the ability to open checking accounts online, while 38% provided mobile-based account opening. This represents an upward trend from 2019, when these figures stood at 76% for online/web and 34% for mobile. This was also a marked increase from 2017, when just 66% of institutions allowed online/web account openings, with only 18% offering mobile access (Ibid). These statistics reflect an ongoing commitment by financial institutions to facilitate easy, remote access to essential banking services.

The growing acceptance of online purchasing within UK retail banking is further evidenced by a recent report, which highlights that 74% of all financial product sales in the UK now occur without the need for physical branch visits or human interaction (Finextra, 2024). This shift aligns with changing consumer expectations, where online engagements with financial services have become the norm for a variety of products. However, certain high-value and complex financial transactions still rely on in-person interactions. For example, customer consultations with independent advisers have grown by 50% in the past year, with significant demand for services such as new mortgages and home equity refinancing (Ibid). This trend prompts a critical question - while digital platforms are increasingly favoured for routine transactions, are

consumers fully comfortable with online purchases or do they continue to rely on independent advisers for high value and complex financial transactions?

Despite the widespread use of mobile apps, research has shown that mobile devices remain less frequently used for making financial purchases compared to websites. According to Meola (2016), consumers tend to prefer websites over mobile apps when making financial transactions. This behaviour is often attributed to the perceived higher risks associated with mobile devices, especially in the context of sensitive financial transactions. This perspective reinforces the need for financial institutions to address potential barriers to the adoption of online purchasing of consumer banking products ensuring that these platforms are secure and user-friendly.

In conclusion, while the ongoing digital transformation in the UK banking sector presents numerous benefits, it also introduces challenges and opportunities. The growing preference for online platforms is an evidence of changing consumer behaviour. The UK retail banking industry must proactively identify and address the barriers that may deter certain consumers from fully embracing online channels. By doing so, financial institutions can ensure that the benefits of this transformation are accessible to all, fostering greater adoption and satisfaction across diverse customer segments.

To gain a deeper understanding of the factors influencing this adoption, the research examined and identified gaps in previous related studies and existing technology acceptance models. These insights have shaped the development of a new conceptual model, which is applied in this study. The following section provides further details.

2.7 Previous Related Research

A substantial body of literature explores the theme of consumer acceptance of technological innovations in consumer banking. However, most studies have focused on the adoption of online banking. Within the context of UK retail banking, only a limited number of these studies can be considered recent. Asmi and Ishaya (2012) examined factors influencing elderly adoption of internet banking using the Decomposed Theory of Planned Behaviour (DTPB). Their findings indicated that older citizens possess the ability and willingness to observe, learn and adopt internet banking services. However, financial institutions have not sufficiently engaged with this demographic to facilitate

adoption. Nearly a decade later, the findings of Ahmed, Bangassa and Akbar (2020) corroborated these findings through their investigations into how UK retail banks can restore consumer trust. Using the trust restoration model through interviews with frontline staff, they identified financial literacy as a significant concern among UK retail banking consumers across all age groups. However, while these findings are highly significant, their data was obtained through retail bank frontline staff rather than directly from consumers.

More recently, Hanif and Lallie (2021) employed a combination of the Unified Theory of Acceptance and Use of Technology (UTAUT) model and the Mobile Technology Acceptance Model (MTAM) to explore security-related factors influencing the adoption of mobile banking applications among the UK elderly. Their study highlighted a low uptake of digital services within this demographic and identified perceived cybersecurity trust as a key factor affecting the intention to use these services.

These studies are particularly relevant as they focus on the elderly, a vulnerable segment of society less likely to be tech-savvy. Nonetheless, they primarily examined internet banking adoption among a single segment of UK retail consumers. This highlights the importance of research addressing online purchase adoption intention across all age groups within UK retail banking. This need is particularly pressing as banks increasingly close branches to reduce operational costs through technological innovation. Furthermore, the elderly population has continued to grow in many societies (Bezirgani and Lachapelle, 2021). This demographic was included in a study by McKinsey & Company (2021), which examined behavioural changes among retail banking consumers in Western Europe and the US. The study revealed a declining preference for branch visits among the elderly and a long-term trend favouring digital transactions as the default channel. These findings emphasise the importance of including the elderly in the digital transformation journey to prevent exclusion.

Nonetheless, as previously noted, some consumers remain resistant to change or lack the means to participate in the digital revolution. This research aims to identify the specific needs of such customers to align appropriate support. Existing studies have not specifically examined factors influencing online purchasing within the context of UK consumer banking.

Trust has long been recognized as a critical issue in e-commerce transactions and is considered a prerequisite for adopting electronic services (Beldad, De Jong and Steehouder, 2010). Stouthuysen *et al.* (2018) found the concept of trust to be central to the success of any buyer-seller relationship irrespective of channel used for the transaction. Similarly, Raimondo (2000) asserted that trust is fundamental to initiating and managing buyer-seller relationships, although it still lacks a universally accepted definition or measurement criteria. Lin *et al.* (2014) described trust as a complex construct studied from various perspectives and disciplines. Rousseau *et al.* (1998) defined trust as one party's belief that the other will not act opportunistically. Mayer, Davis and Schoorman (1995) characterised trust as the willingness to accept vulnerability to another party's actions. Raimondo (2000) further defined trust as the belief that a counterparty is both reliable and predictable, aligning future actions with explicit and implicit commitments. In online transactions, Kaabachi, Mrad and Petrescu (2017) described intention to trust as a consumer's readiness to accept vulnerability arising from an online seller's actions.

Trust is dynamic, evolving through repeated interactions (Gefen, Karahanna and Straub, 2003; Lee and Choi, 2011; Kim, 2012). It typically involves two parties. The trustor, who gives trust and the trustee, who receives trust. Trust can exist between individuals, between organizations, or between individuals and organizations (Baccarani, 1995, as cited in Raimondo, 2000). This study investigates the influence of trust on the adoption of online consumer banking products and services, focusing on trust between individual consumers and UK retail banking institutions. With this goal in mind, the study therefore adopts the definition of trust as conceptualised by Hong and Cha (2013). The authors defined trust as the consumer's conviction that the online merchant will not act opportunistically, and that the e-commerce environment is secure enough for risk-free transactions.

Recent research has largely overlooked the influence of information on the intention to adopt technological innovations. This study seeks to address this gap by investigating the influence of consumers' information seeking behaviour on the intention to purchase online banking products and services. The amount of information available today creates a huge task for consumers to navigate through while making purchase decisions. Understanding consumer information needs is essential for organizations. The Office for National Statistics, as cited in Waite and Harrison (2002), reported that

information seeking is the primary reason for internet use in the UK. Bamoriya and Singh (2011) found that information seeking positively influence attitudes toward advertising. Other studies have highlighted that consumers rely on diverse sources, including advertising, reviews and word-of-mouth, to inform purchase decisions (Krishnan and Smith, 1998; Thomas, Wirtz and Weyerer, 2019). Kim and Prabhakar (2004) identified word-of-mouth referrals as significant predictor of initial trust, which positively influences the adoption of internet banking. Similarly, Park, Sutherland and Lee (2021) found that online restaurant reviews influenced potential customers' trust and purchase intention through factors such as review sources and information quality.

Building on the review of previous research, the identification of gaps and the analysis of models used in prior investigations, the next section critically examines various technology acceptance models. It explores their limitations within the research context and substantiates the selection of the most appropriate model for this study.

2.8 Overview of Technology Acceptance Models

A model serves as a conceptual framework for problem-solving and can evolve into a statement that illustrates the interrelationships among theories (Case and Given, 2016). The extent to which a person perceives, accepts, and uses a technology is referred to as technology acceptance (Dillon and Morris, 1996). In other words, it is a measure of a user's willingness to adopt a technology to perform the tasks it was developed to support. For any new technology to be effective, it must be accepted and subsequently utilised.

Research on technology acceptance has produced numerous competing models. These models have distinct sets of factors that determine acceptance (Venkatesh *et al.*, 2003). Over the past few decades, there has been significant growth in research related to the acceptance of new technology. This has provided the academic community with a variety of technology acceptance models and theories, which have played key roles in predicting both the intention to use and the actual adoption of new technology (Taylor and Todd, 1995a; Venkatesh and Morris, 2000; Lin and Chang, 2011). Among these, the Technology Acceptance Model (TAM) has proven particularly effective in predicting users' attitudes toward adopting new technological innovations (Davis, 1989; Davis and Venkatesh, 1996). TAM is widely used in studies that aim to understand behavioural intentions to use a technological innovation.

This section reviews widely used technology acceptance models and theories, focusing on factors that predict or influence acceptance, more specifically, factors that shape users' behavioural intentions to accept and use new technologies. This review supports the primary objective of this research, which is to explore the factors influencing UK retail banking consumers' behaviour toward accepting online purchasing.

The proposed research model adopts the novel UTAUT2 framework, integrating it with significant theories from the field of information science. As discussed below, UTAUT2 builds upon nine models, including the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Technology Acceptance Model (TAM and TAM 2), the Motivational Model (MM), Social Cognitive Theory (SCT), the Combined TAM and TPB (C-TAM-TPB), the Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and the Unified Theory of Acceptance and Use of Technology (UTAUT).

2.8.1 Theory of Reasoned Action (TRA)

First introduced by Ajzen and Fishbein in 1975, the Theory of Reasoned Action suggests that behavioural intention plays a significant role in determining technology use. This intention is primarily influenced by an individual's attitude toward the behaviour and subjective norms (Fishbein and Ajzen, 1980). The theory assumes that behaviour is governed by intention. Figure 2.2 illustrates the components that comprise TRA.

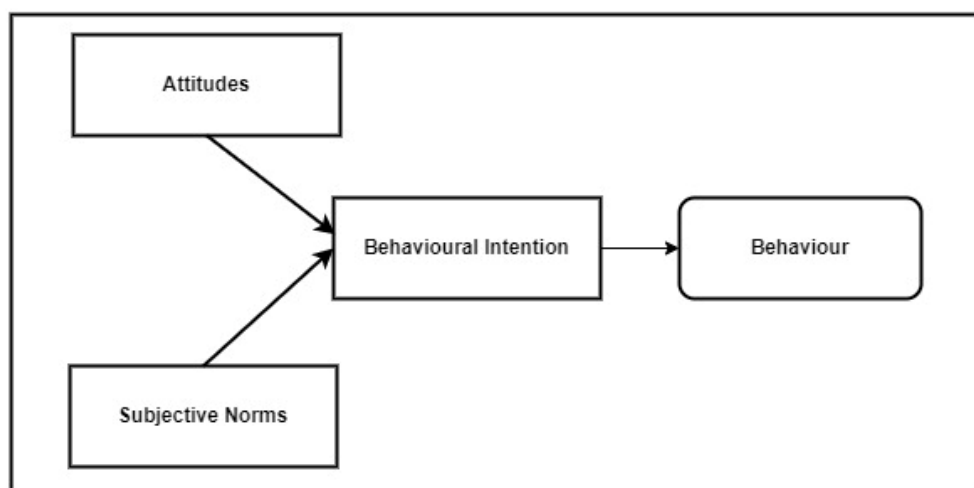


Figure 2.2: Theory of Reasoned Action
(Fishbein and Ajzen, 1980)

Behavioural intention refers to an individual's willingness to perform a specific behaviour. This consequently makes intention a very strong determinant of actual behaviour (Taylor and Todd, 1995a). Attitude represents an individual's feelings or perceptions about performing a particular action, which can be either positive or negative. Subjective norm reflects an individual's perception of whether others believe a specific behaviour should be performed (Fishbein and Ajzen, 1980). The Theory of Reasoned Action (TRA) was one of the foundational theories of technology acceptance and served as a basis for the development of subsequent models. However, TRA has notable limitations, including its omission of the role of habit and other cognitive factors, such as the voluntariness of use (Montano and Kasprzyk, 2015).

2.8.2 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) is an extension of the Theory of Reasoned Action (TRA) designed to predict human behaviour across various contexts. TPB builds upon TRA by incorporating an additional component of Perceived Behavioural Control (PBC). This addition addresses the limitations of TRA in predicting intentions and behaviours related to the acceptance of new technologies. Figure 2.3 illustrates the components of the model.

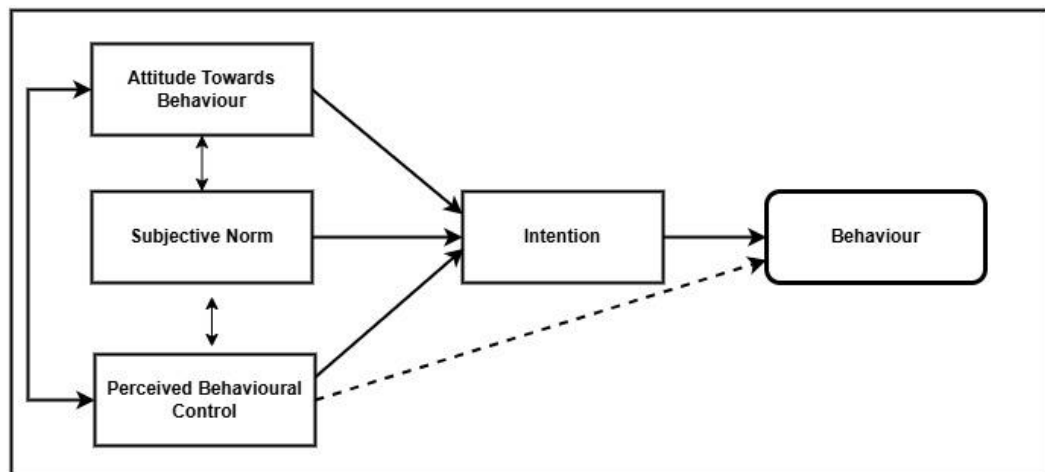


Figure 2.3: Theory of Planned Behaviour

(Ajzen, 1985)

This new element, perceived behavioural control, also became a determinant of intention. Intention has been identified as the best predictor of behaviour, as it incorporates motivational factors that influence behaviour. This extended model evolved into the Theory of Planned Behaviour (Ajzen, 1985; Ajzen, 1991). The theory posits that a combination of an individual's attitude, subjective norm, and perceived

behavioural control leads to the formation of an intention. Perceived behavioural control is defined as the extent to which an individual perceives control over both internal and external factors that influence the ease or difficulty of performing a particular behaviour (Ajzen and Driver, 1992). Perceived behavioural control has been shown to predict intention (Alam and Sayuti, 2011). However, perceived behavioural control is further influenced by the two factors of perceived power and control beliefs. These factors can either impede or facilitate intention, depending on circumstances and past experiences (McKenzie, Neiger and Thackeray, 2009). The inclusion of PBC introduced the concepts of self-efficacy and a degree of voluntariness to the model (Taherdoost, 2018).

2.8.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) also finds its theoretical foundation in the Theory of Reasoned Action (TRA). While TRA and the Theory of Planned Behaviour (TPB) helped explain the behavioural aspects of technology acceptance, limitations still existed in using these models to predict technology acceptance. Davis (1985) further explored additional influencing factors and proposed Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Attitude (ATT) towards usage as key motivators for technology acceptance. Figure 2.4 illustrates the components of the model. TAM focuses on the relationships among these three key factors and their impacts on Behavioural Intention (BI) and Actual Use (AU) of a system (Davis, Bagozzi and Warshaw, 1989). This theory suggests that PEOU, PU, and ATT are core determinants of a user's decision to accept new technology. Over the past decade, TAM has gained substantial empirical support and is frequently cited in the field of technology acceptance (Wu, 2009).

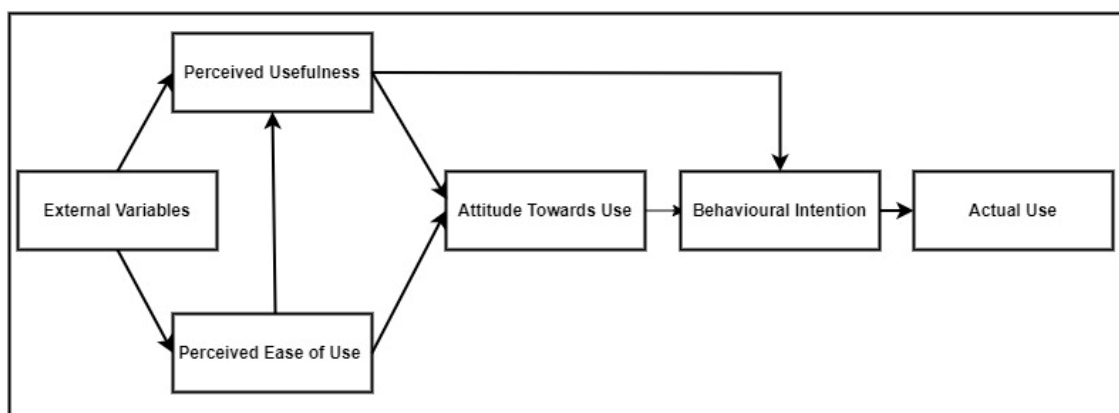


Figure 2.4: Technology Acceptance Model
(Davis, 1985)

Although TAM has been widely applied in research due to its strengths, it also has limitations that hinder a complete understanding of all factors affecting technology acceptance (Moon and Kim, 2001). TAM was primarily developed for application in workplace settings, which led to the exclusion of social influence as a factor in technology adoption (Taherdoost, 2018). To address this limitation, Venkatesh and Davis (2000) developed TAM2, an extension of the original TAM. Social Cognitive Theory, developed earlier, is discussed in the next Subsection.

2.8.4 Social Cognitive Theory (SCT)

Social Cognitive Theory (SCT) was developed by Albert Bandura in 1986 to analyse and better understand human behaviour. According to this theory, human behaviour is determined by three interrelated elements which include personal factors, environmental factors, and behaviours (Bandura, 1986). SCT challenges other human behaviour theories by emphasising the crucial role of cognitive processes in a person's response to various situations. It proposes that personal, environmental, and behavioural factors influence one another (Bandura, 1986). In contrast, other theories suggest that situations and consequences alone shape behaviour. SCT laid the foundation for understanding human behaviour, particularly in the context of technology acceptance. Compeau and Higgins (1995) incorporated emotions and expectations into SCT in their study of the role of beliefs in computer self-efficacy. Similarly, Venkatesh (2000) integrated SCT and the TAM in his work titled "Integrating control, intrinsic motivation, and emotion into TAM." Figure 2.5 illustrates the components of the model.

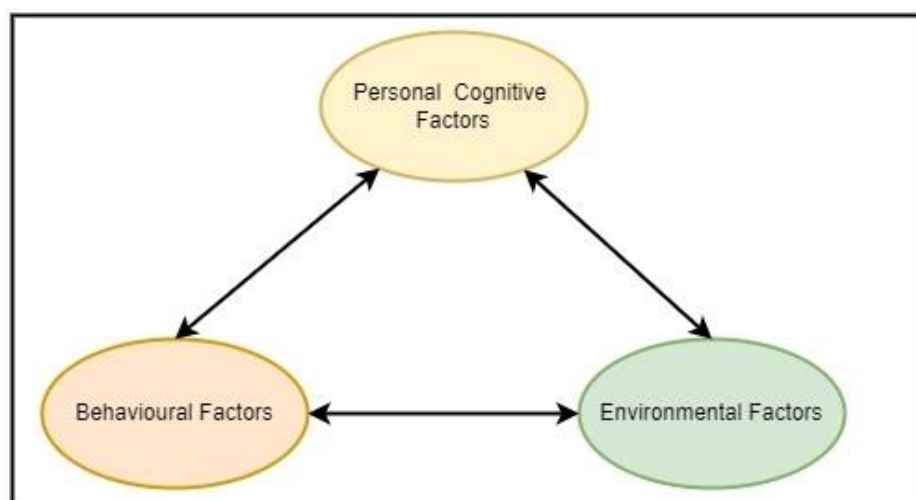


Figure 2.5: Social Cognitive Theory
(Bandura, 1986)

2.8.5 Model of PC Utilisation (MPCU)

The theory of attitudes and behaviour, developed by Triandis (1977), served as the foundation for the Model of Personal Computer Utilisation (MPCU). Figure 2.6 presents this model. MPCU was developed by Thompson, Higgins and Howell (1991). The MPCU predicts that behaviours are determined by factors such as attitude, social norms, habits and the anticipated consequences of those behaviours. According to this model, the key factors influencing technology acceptance include “job fit, complexity, long-term consequences, social factor, affect towards use and facilitating conditions” (Thompson, Higgins and Howell, 1991). Among these, complexity, job fit, and long-term consequences are categorised under perceived consequences (Jen, Lu and Liu, 2009).

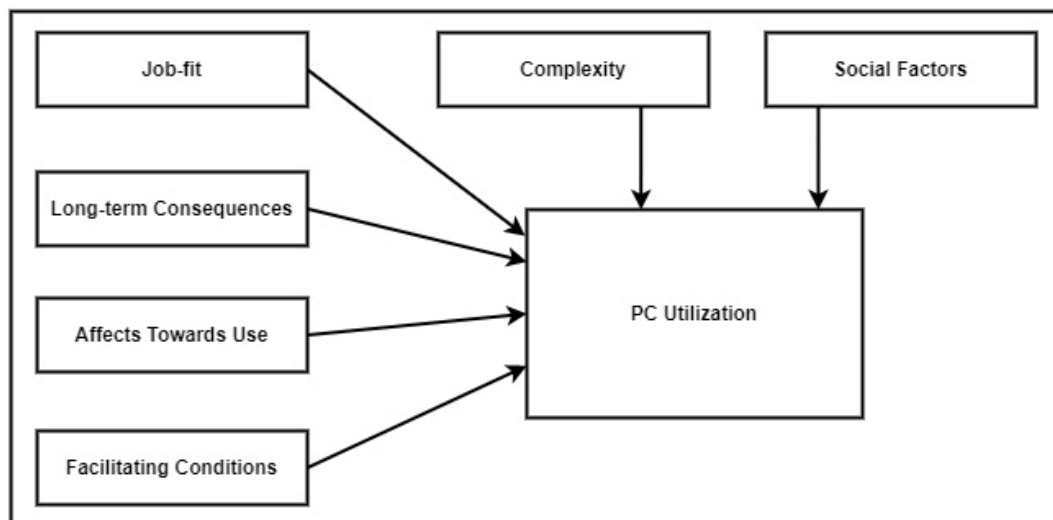


Figure 2.6: Model of PC Utilisation
(Thompson, Higgins and Howell, 1991)

2.8.6 Motivational Model (MM)

Psychology, as a scientific discipline, has conducted numerous studies that demonstrate a close relationship between human behaviour and motivation theory. Motivation has consistently been shown to play a pivotal role in shaping behaviour across various domains (Deci and Ryan, 1985). Motivation is commonly classified into extrinsic and intrinsic motivation (Calder and Staw, 1975; Porac and Meindl, 1982; Scott Jr, Farh and Podsakoff, 1988). Extrinsic motivation refers to engaging in an activity with the belief that such engagement will lead to outcomes that are separate from the activity itself. In contrast, intrinsic motivation involves undertaking an activity for the inherent satisfaction derived from performing the task (Davis, Bagozzi and Warshaw, 1992).

Vallerand (1997) as cited in Venkatesh and Speier (1999), further defined intrinsic motivation as the fulfilment and pleasure a user experiences from engaging in a specific activity. In the field of information science, and particularly in the context of technology usage, Davis, Bagozzi and Warshaw (1992) conceptualized motivation as an explanation of users' attitudes and intentions to adopt new technologies. As illustrated in Figure 2.7, their research tested the motivational model and found that both extrinsic and intrinsic motivation are strong drivers of the intention to adopt and use a given technology.

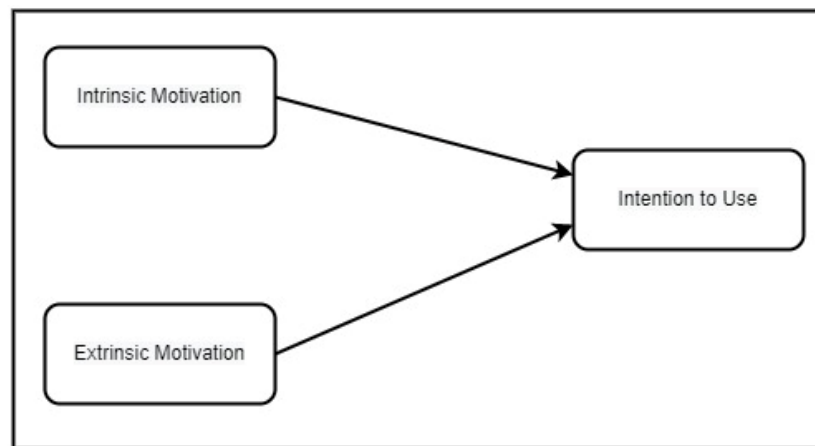


Figure 2.7: Motivational Model
(Davis, Bagozzi and Warshaw, 1992)

2.8.7 Combined TAM and TPB (C-TAM-TPB)

It was identified that TAM failed to address societal factors such as the impact of subjective norm and behavioural control, which previous researchers had found to influence actual behaviour (Taylor and Todd, 1995a). These two factors are core components of the Theory of Planned Behaviour (TPB). Consequently, Taylor and Todd (1995a) developed a model that leveraged the strengths of both TAM and TPB, known as Combined Technology Acceptance Model and Theory of Planned Behaviour (C-TAM-TPB). Figure 2.8 illustrates the combined model, which asserts that actual behaviour is the result of intention, with intention being influenced directly by the three constructs of attitude, subjective norm and behavioural control. Attitude, in turn, is influenced by perceived usefulness and perceived ease of use. However, perceived ease of use has a direct impact on perceived usefulness, which in turn influences both attitude and intention. The C-TAM-TPB posits that perceived behavioural control directly impacts actual behaviour in addition to its indirect impact through behavioural intentions. Taylor and Todd (1995a) conducted an empirical study using the constructs

of this model, moderated by user experience. The combined model was found to be suitable for application among both experienced and inexperienced users (Jen, Lu and Liu, 2009).

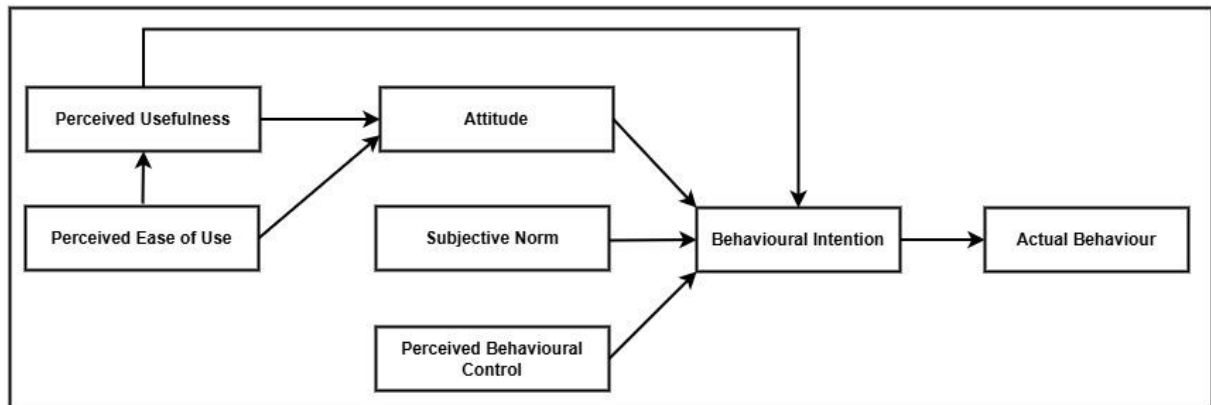


Figure 2.8: Combined TAM-TPB

(Taylor and Todd, 1995b)

2.8.8 Innovation Diffusion Theory (IDT)

Rogers (1995) developed the Innovation Diffusion Theory (IDT), which focuses on how new technologies, practices, and ideas become embedded within a social system (Rogers, 2003; as cited in Murray, 2009). Innovation refers to any idea, object, process, or practice that is considered novel, while diffusion is the method or process through which this innovation is integrated into the social system (Rogers, 1995). According to this theory, there are five key characteristics of any innovation that determine the rate of acceptance and adoption. These are “relative advantage, compatibility, complexity, trialability, and observability” (Murray, 2009). Figure 2.9 illustrates the components of the model.

Researchers have also combined IDT with other theories. For instance, Taylor and Todd (1995b) combined IDT with the Decomposed Theory of Planned Behaviour to study consumers’ intentions toward adopting new product innovation. Similarly, Liao *et al.* (1999) applied both IDT and TPB to explore the factors influencing retail banking consumers' acceptance of virtual banking in Hong Kong.

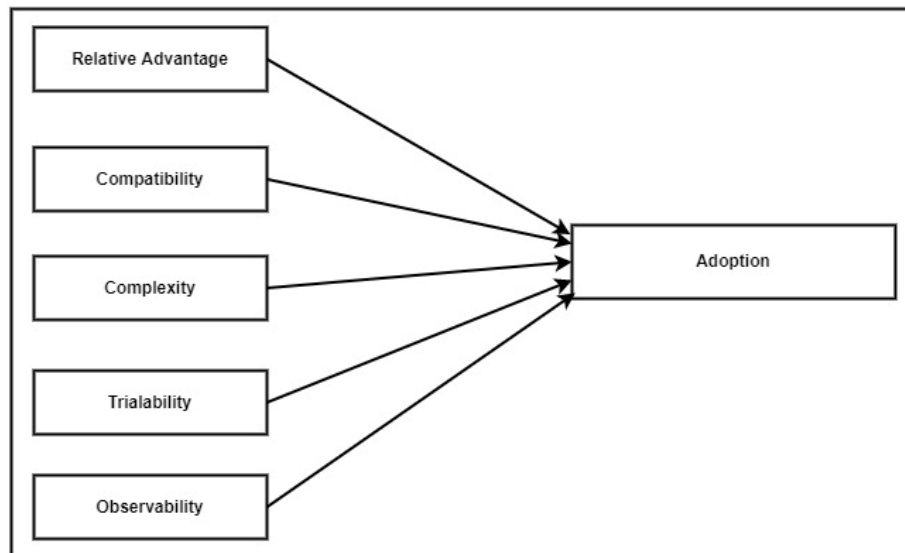


Figure 2.9: Innovation Diffusion Theory
(Rogers, 1995)

2.8.9 Extended TAM (TAM2)

To address the limitations of the original technology acceptance model (TAM), Venkatesh and Davis (2000) developed TAM2. This extended model introduced two additional determinants to account for cognitive instrumental processes and the effects of social influence (Alomary and Woollard, 2015). By incorporating social influence, TAM2 has demonstrated strong predictive accuracy regarding intentions to use new technology, having been tested in both voluntary and mandatory contexts (Bhattacharjee, 2001, as cited in Rahimi and Oh, 2024). Figure 2.10 presents TAM2.

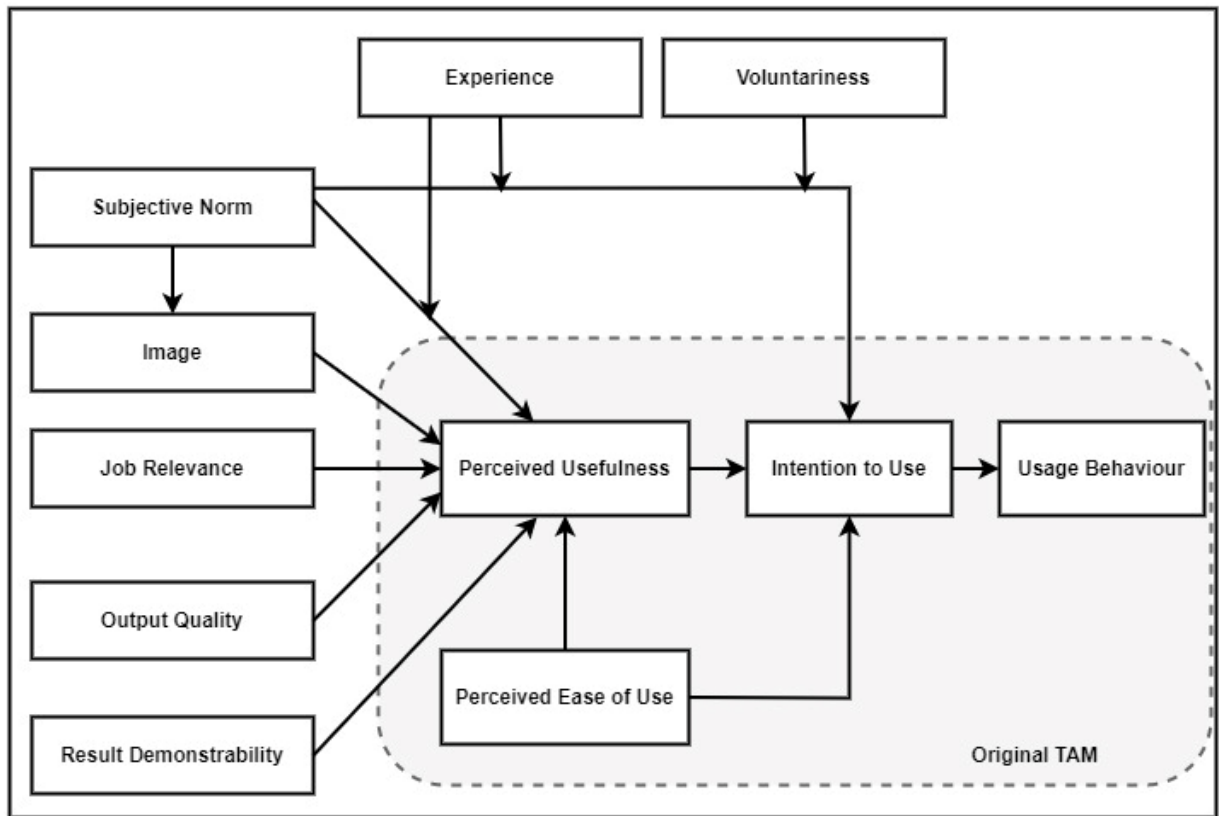


Figure 2.10: Extended Technology Acceptance Model
(Venkatesh and Davis, 2000)

2.8.10 Unified Theory of Acceptance and Use of Technology (UTAUT)

In 2003, Venkatesh *et al.* (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT) by assimilating and synthesizing the eight previously discussed technology acceptance theories and models. This model is presented in Figure 2.11.

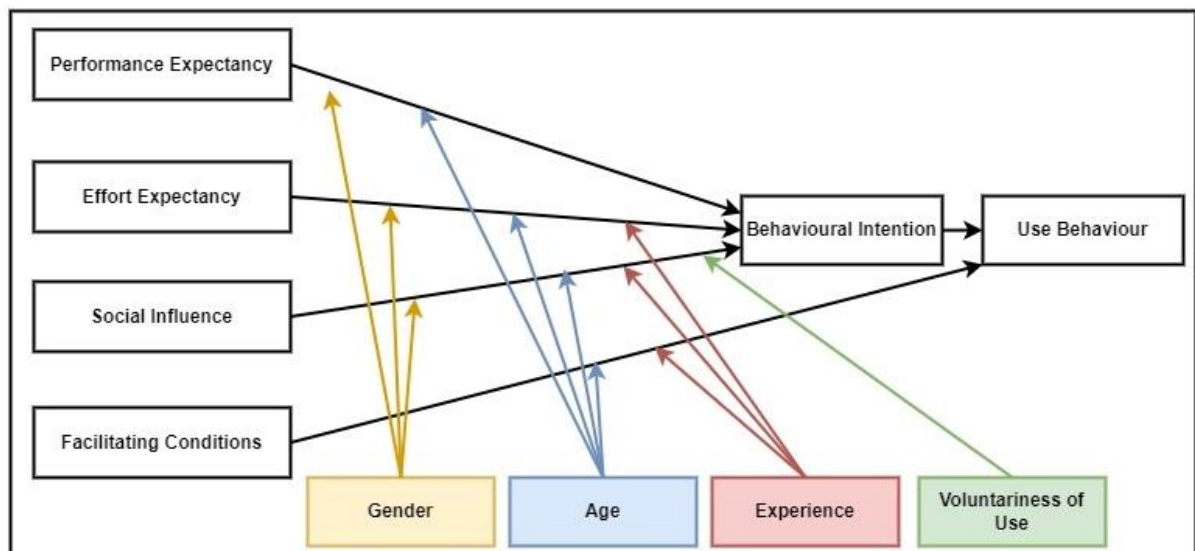


Figure 2.11: Unified Theory of Acceptance and Use of Technology
(Venkatesh *et al.*, 2003)

The Unified Theory of Acceptance and Use of Technology (UTAUT) integrates elements from the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), the Motivational Model (MM), Combined TAM-TPB (C-TAM-TPB), the Model of PC Utilization (MPCU), and Social Cognitive Theory (SCT). To establish UTAUT, Venkatesh *et al.* (2003) focused on four key variables that predict intention and usage behaviour from prior studies. UTAUT predicts that four key constructs, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), influence both the intention to use a technological innovation and actual usage behaviour. The theory postulates that PE, EE and SI directly influence Behavioural Intention (BI), while BI and FC influence and control use behaviour (Venkatesh *et al.*, 2003).

Additionally, four moderating factors: gender, age, experience, and voluntariness of use, shape the relationships between the core constructs. UTAUT has been widely adopted in technology acceptance research and is considered more robust than earlier models (Venkatesh *et al.*, 2003). However, a key limitation of the model is its focus on employee adoption of new technologies within structured organizational contexts. It also overlooks cost-related considerations that influence consumer decisions, as well as non-rational factors such as enjoyment or habitual use. To address this drawback, Venkatesh, Thong and Xu (2012) extended UTAUT by introducing three additional

constructs in their research on consumer acceptance and use of information technology. This extended model considers the unique factors influencing consumer adoption of new technologies and is examined in the following section, which also justifies its selection for the current study.

2.9 UTAUT2 Constructs and Moderators

The UTAUT2 is an extended version of the original Unified Theory of Acceptance and Use of Technology (UTAUT). While retaining the four core constructs from UTAUT, including, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Conditions (FC), this extension introduces three new constructs that are significant in examining technology acceptance within a consumer context. The newly added constructs are Hedonic Motivation (HM), Price Value (PV), and Habit (HB). The model is illustrated in Figure 2.12.

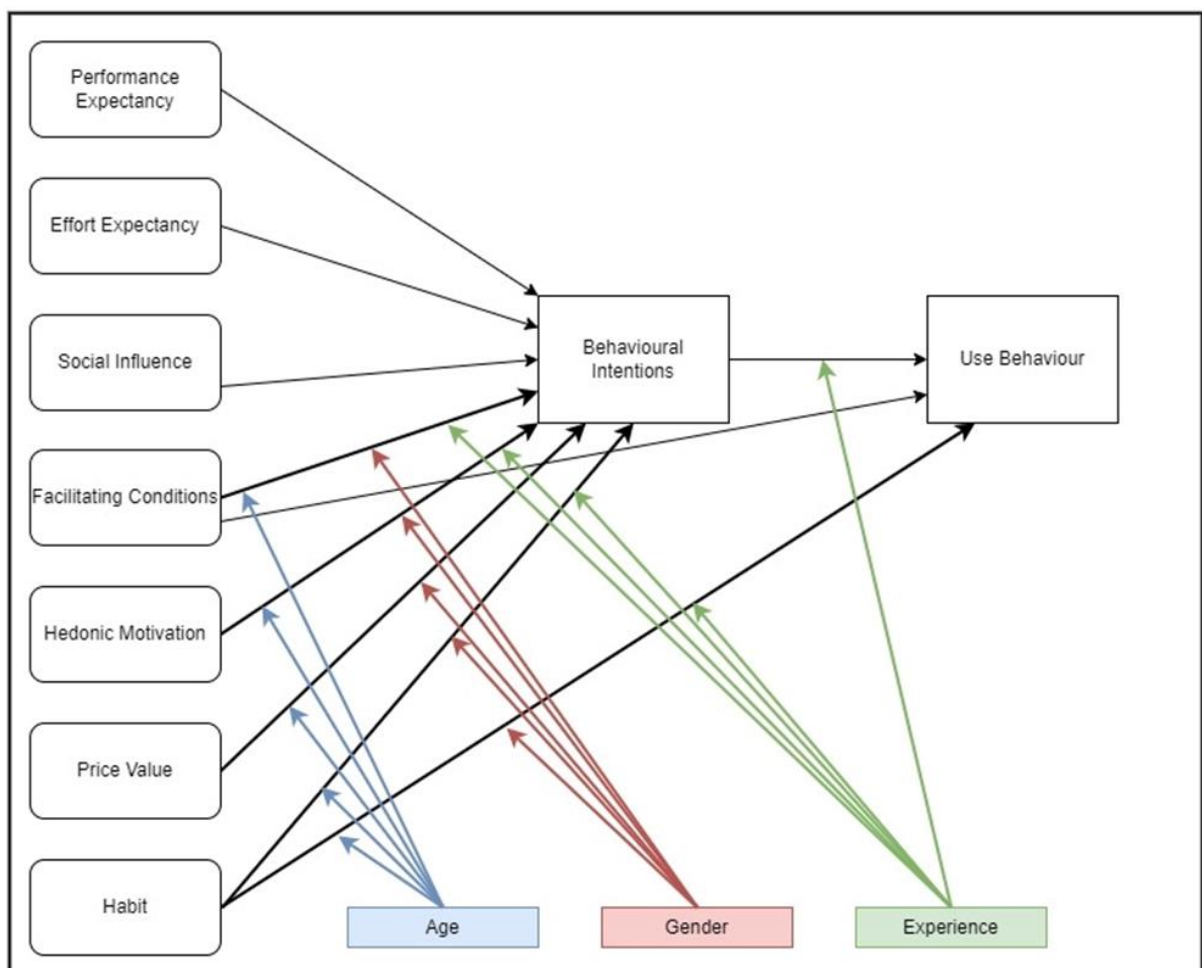


Figure 2.12: Extended Unified Theory of Acceptance and Use of Technology
(Venkatesh, Thong and Xu, 2012)

The seven constructs of the model, also known as the independent variables, influence the two dependent variables of behavioural intention and use behaviour. Additionally, age, gender, and experience are included as control variables in the model. These moderators help to assess how individual differences in age, gender, and experience affect the relationship between the independent and dependent variables. According to Venkatesh, Thong and Xu (2012), the acceptance of new technology varies across these moderators, highlighting their role in influencing technology use. Each construct within the UTAUT2 model is further explained below.

2.9.1 Performance Expectancy

Performance Expectancy (PE) refers to the degree to which individuals believe that using a specific technology will enhance their task performance (Venkatesh, Thong and Xu, 2012). In the context of the research, performance expectancy represents consumers' perception of the usefulness of online channels for purchasing of retail banking products and services. This concept parallels the notions of perceived usefulness in the Technology Acceptance Model (TAM) and relative advantage in the Innovation Diffusion Theory (IDT) (Venkatesh *et al.*, 2003).

A considerable body of research, both historical and recent, has examined the impact of performance expectancy on consumers' intention to adopt online purchasing. Abdul Murad, Sivapathy and Mohd Nor (2021) identified a positive correlation between performance expectancy and customers' intention to purchase tourism-related products through online travel agent platforms. Similarly, Chen *et al.* (2021) demonstrated that performance expectancy, alongside social influence, significantly influences customers' purchase intentions when using new e-commerce platforms.

2.9.2 Effort Expectancy

Effort Expectancy (EE) measures the perceived ease associated with using a new technology, reflecting the extent to which consumers find the technology simple to learn and use (Venkatesh, Thong and Xu, 2012). In the context of online purchasing of retail banking products and services, EE captures consumers' belief that purchasing online are intuitive, easy to adopt and free from significant barriers. Essentially, EE highlights the simplicity and user-friendliness of online platforms. As illustrated in Figure 2.12, EE is a direct determinant of consumers' intention to adopt new technological innovations. This construct aligns with perceived ease of use in the

Technology Acceptance Model (TAM) and complexity in the Innovation Diffusion Theory (IDT) (Venkatesh *et al.*, 2003).

Empirical research has yielded varying findings regarding the impact of EE on online purchasing intentions. For example, An, Han and Tong (2016), in their study of factors influencing online shopping intentions for fresh agricultural products using UTAUT2, identified EE as a significant factor shaping consumer intentions. Conversely, Tarhini *et al.* (2021) found no significant influence of EE on online shopping intentions among UK consumers in their investigation of online shopping adoption. Notably, the latter study employed a different framework, integrating UTAUT2 with the DeLone-McLean IS Success Model and incorporating additional constructs such as convenience, trust, service quality, and product-related features. Like the former, the latter study by Tarhini *et al.* (2021), was also limited by its focus on a small sample of English consumers selected through convenience sampling, which may have influenced their findings.

Additionally, the influence of EE has been shown to vary across demographic groups, particularly with respect to age and gender. Research indicates that EE exerts a stronger effect on females, older adults, and individuals with limited prior experience using technology (Venkatesh and Morris, 2000; Yousafzai and Yani-de-Soriano, 2012).

2.9.3 Social Influence

Social Influence (SI) refers to the extent to which the opinions of others influence an individual's intention to use a technology (Venkatesh, Thong and Xu, 2012). It captures how interactions with family, friends and professional colleagues influence technology acceptance, as classified by Robinson Jr (2006). SI as a construct in the UTAUT2 framework, aligns with subjective norm in C-TAM-TPB, TRA, and TPB, as well as social factors in the Model of PC Utilization.

In the context of online purchasing of consumer banking products and services, which are typically voluntary activities, SI may play a significant role in shaping consumers' intentions. Unlike mandatory technology adoption scenarios, consumers in this context retain full discretion, making their social interactions and peer influences more pertinent. Several studies underscore SI as a positive predictor of online purchase intention. Chong, Chan and Ooi (2012) demonstrated that SI significantly influences online shopping adoption among Malaysian and Chinese consumers. Similarly,

Ingham, Cadieux and Berrada (2015) highlighted the impact of SI on attitudes toward purchasing products and services online.

However, the influence of SI is not uniform across all demographic groups. Research indicates that the effect of SI is less pronounced among older individuals. This demographic may experience reduced peer pressure compared to younger generations, such as millennials (Asmi and Ishaya, 2012; Arenas-Gaitán, Peral-Peral and Ramón-Jerónimo, 2015). These findings are echoed in studies by Thusi and Maduku (2020) and Oliveira *et al.* (2014), both of which employed integrated models to examine factors influencing mobile banking adoption in South Africa and Portugal, respectively. These results suggest that while SI remains an important determinant, its impact can vary depending on demographic and contextual factors, particularly age.

2.9.4 Facilitating Conditions

Facilitating Conditions (FC) refer to the extent to which a user believes that the necessary resources and technical support are available to enhance the use of a particular technological innovation (Venkatesh, Thong and Xu, 2012). Consumers who have the appropriate support in place and the necessary resources available to purchase online are more likely to develop the intention to use a technology that facilitates this behaviour. Singh and Matsui (2017) defined FC as “the required items and support needed to use new technology” while Nordhoff *et al.* (2020) described FC as the extent to which users believe they possess the resources needed to use a particular technology.

In the context of online purchasing of consumer banking products and services, FC encompasses the quality of online help and general support provided by banking institutions, such as after-sales support, network stability and reliability, and consumers’ internet knowledge and skills. In the UTAUT2 model, FC predicts both behavioural intention (BI) and use behaviour. Research findings suggest that FC is a significant determinant of BI towards online shopping and retail banking services, such as internet banking (Tak and Panwar, 2017; Thusi and Maduku, 2020). Asmi and Ishaya (2012), in their study on the adoption of internet banking among the elderly in the UK, also identified a positive relationship between FC and self-efficacy.

However, some studies have identified FC as less significant in predicting BI and use behaviour (Arenas-Gaitán, Peral-Peral and Ramón-Jerónimo, 2015; Singh and Matsui, 2017; Tarhini *et al.*, 2021). These variations in findings indicate that the impact of FC may differ based on the specific research context or the demographic group being studied.

2.9.5 Hedonic Motivation

Hedonic Motivation (HM) denotes “the fun or pleasure derived from using a technology” (Venkatesh, Thong and Xu, 2012, p161). This can also be understood as the happiness and satisfaction consumers experience from engaging with a particular technological innovation. In the context of this study, HM measures the emotions such as fun, happiness, and enjoyment that consumers perceive when using the internet as a purchasing channel, as opposed to physically visiting bank branches.

In a study exploring behavioural intention to play online games, Lee (2009) noted that technologies fostering fun and enjoyment positively influence users’ intention to adopt them. Similarly, in an empirical study applying UTAUT2 in a consumer context, Venkatesh, Thong and Xu (2012) identified HM as a significant predictor of BI for mobile internet technology. A substantial body of literature has corroborated this relationship. Tandon and Kiran (2018), found that HM, among other external variables, is a strong driver of online shopping. Anand *et al.* (2019), further revealed that online shopping is perceived as an entertaining and enjoyable activity by Malaysians, noting that hedonic motivations tend to have a stronger influence on unplanned purchase behaviour compared to utilitarian motivations. Babin, Darden and Griffin (1994) similarly indicated that hedonic motivations have an indirect impact on purchase intentions, emphasising their importance in consumer decision-making.

In contrast, given the sensitive nature of financial products, consumers often approach such purchases, especially when purchasing online, with considerable caution, focusing on security, privacy and reliability over enjoyment and fun. Online financial transactions can create significant pressure, particularly for potential consumers and those with limited experience. Arenas-Gaitán, Peral-Peral and Ramón-Jerónimo (2015), found that HM did not influence BI among elderly users of internet banking. Similarly, Thusi and Maduku (2020) reported that HM did not significantly correlate with BI in the adoption of retail banking applications among South African millennials.

Widodo, Irawan and Sukmono (2019) also observed that HM had no significant impact on BI for the adoption of digital wallets in Indonesia. These findings align with the assertions made by Anand *et al.* (2019), indicating that HM exerts a greater influence on individuals who prioritise pleasure, entertainment and emotional satisfaction compared to those driven by utilitarian motives such as the purchasing of financial products and services.

Considering these findings, this study replaces HM with perceived trust, a construct extensively acknowledged for its pivotal role in influencing BI in online purchasing contexts. Several studies have emphasised the significance of trust in online environments (Salisbury *et al.*, 2001; Chiang and Dholakia, 2003; Chen and Barnes, 2007; Dash and Saji, 2008; Merhi, Hone and Tarhini, 2019; Rahman, 2020; Retnowati and Mardikaningsih, 2021).

2.9.6 Price Value

Price Value (PV) signifies the trade-off between benefits and sacrifices (Zeithaml, 1988). This construct originated from perceived value. Venkatesh, Thong and Xu (2012) defined PV as consumers' cognitive trade-offs between the perceived benefits of using a technological innovation and the monetary costs involved. Essentially, PV assesses the perceived advantages of adopting a technology relative to the associated costs (Dodds, Monroe and Grewal, 1991).

In the context of this consumer study, unlike workplace settings where technological equipment and internet access are typically provided by the employer, the consumer bears the full cost of adopting and using the technology. Consequently, PV encompasses the cost structure and pricing associated with the use of new technologies. These costs play a critical role in shaping consumers' decisions to adopt or refrain from using an innovation. PV has a pronounced influence on behavioural intention (BI) when the perceived benefits of using a technology outweigh the financial costs (Venkatesh, Thong and Xu, 2012).

Online purchasing, like other e-commerce transactions, involves costs such as acquiring the necessary equipment, internet access, and potentially installing specific applications. Within the scope of this study, online purchasing requires devices such as laptops, desktops, tablets, or smartphones, all equipped with pre-installed web

browsers. Therefore, the costs associated with online purchasing of consumer banking products and services primarily relate to equipment usage and internet access. If these costs are perceived to be minimal, particularly with reductions in internet prices and the growing availability of free internet hotspots, consumers are more likely to adopt online purchasing.

Several published studies have consistently demonstrated the influence of PV on BI and usage behaviour (Chong and Ngai, 2013; Xu, 2014; Tak and Panwar, 2017; Soodan and Rana, 2020).

2.9.7 Habit

Habit (HB) refers to the extent to which individuals perform certain behaviours automatically due to prior learning and repetition (Venkatesh, Thong and Xu, 2012). HB reflects the degree to which a behaviour has become automatic, as measured by an individual's belief in its habitual nature (Mutlu and Der, 2017). Following these definitions, this study defines HB as the degree of familiarity and repeated interaction that retail banking consumers exhibit when engaging in online purchasing.

Within the UTAUT2 model, HB is identified as having both an indirect influence on behavioural intention and a direct impact on use behaviour. Liao, Palvia and Lin (2006), in their study on the role of habit in e-commerce, identified habit as a significant determinant of consumers' intention to continue using e-commerce platforms. Similarly, Tak and Panwar (2017), found that habit, along with hedonic motivation, emerged as the strongest predictor of consumers' behavioural intention to use mobile applications for shopping.

As users gain experience with new technologies, their interaction with the technology often becomes habitual (Venkatesh, Thong and Xu, 2012). Consequently, once consumers begin engaging in online purchasing, this behaviour may evolve into a routine and become an integral part of their lifestyle, subsequently influencing their decisions to purchase online.

The critical role of HB in understanding users' acceptance of new technology has been corroborated by numerous studies (Escobar-Rodríguez and Carvajal-Trujillo, 2013; 2014; Alalwan *et al.*, 2015; Macedo, 2017; Hutami and Maharani, 2021).

2.9.8 The Moderating Variables

The role of individual factors in moderating the impact of the UTAUT2 constructs on behavioural intention and use is a key aspect of the model. Age, gender, and experience serve as critical moderators, determining the strength of the relationships between predictors and behavioural intention. These three demographic factors influence how facilitating conditions, hedonic motivation, price value, and habit interact with users' intentions to adopt new technology (Venkatesh, Thong and Xu, 2012). Experience further moderates the relationship between behavioural intention and use behaviour, emphasising its role in facilitating the transition from intention to use.

The interaction of these personal factors with various constructs within the model illustrates the complexity of the technology acceptance process, demonstrating that technology adoption is not a one-size-fits-all phenomenon but is influenced by an individual's demographic profile. In essence this indicates that the effects of these factors differ across demographic groups. Understanding these interactions is crucial for identifying the factors that influence technology acceptance across diverse user groups (Venkatesh, Thong and Xu, 2012).

2.10 The Choice of UTAUT2 Model

The consumer technology industry is a multibillion-dollar sector. While many studies have utilised various information systems acceptance models to examine technology acceptance across different contexts, these models were not well-suited to understanding the factors influencing consumer technology use. Given the abundance of technological devices, systems and applications available today, many of which are targeted specifically at consumers, the UTAUT model was extended to address the context of consumer technologies, resulting in the development of extended unified theory of acceptance and use of technology known as UTAUT2 (Stofega and Llamas, 2009; Tamilmani *et al.*, 2021).

The primary purpose of extending UTAUT to create UTAUT2 was to develop a model suitable for studying consumer contexts (Venkatesh, Thong and Xu, 2012; Morosan and DeFranco, 2016). A key limitation of UTAUT, which made it unsuitable for application in this context, is that it was originally designed to study technology acceptance and use within organizational settings. In organizations, the adoption of technology is often mandatory, contrasting with consumer behaviour, where

technology use is typically voluntary. Chen and Holsapple (2013) also emphasised that research in e-business should adopt distinct approaches depending on whether the focus is on consumers or organizations. UTAUT2 was adopted for this study for the following reasons:

Consumer-Specific Focus: UTAUT2 was specifically introduced to investigate technologies aimed at consumers (Venkatesh, Thong and Xu, 2012).

Strong Foundations: UTAUT, which serves as the base theory for UTAUT2, has been recognized as a comprehensive model with high explanatory power and predictive accuracy in technology acceptance studies (Lawson-Body *et al.*, 2018).

Relevant Additional Constructs: The additional constructs introduced in UTAUT2 are particularly relevant to consumer contexts.

- Customers, unlike employees in organizations, are typically responsible for the cost of using a technology, making *price value* a critical determinant of their intention to use (Brown and Venkatesh, 2005).
- Habit, recognized as a key driver of behaviour and a significant predictor of online purchase intention (Escobar-Rodríguez and Carvajal-Trujillo, 2013), is a construct absent from the original UTAUT model.

Proven Performance: UTAUT2 has been empirically validated and shown to outperform other technology acceptance models (Venkatesh, Thong and Xu, 2012).

Adaptability: Researchers are increasingly integrating additional theories and models into UTAUT and UTAUT2 to enhance their predictive accuracy for technology acceptance and use (Oliveira *et al.*, 2014; Alotaibi, 2020; Thusi and Maduku, 2020; Zhao and Bacao, 2020; Tarhini *et al.*, 2021; Wu, Lee and Tian, 2021).

2.11 Limitations of the UTAUT2 Model in the Current Study

The preceding section reviewed existing technology acceptance models, highlighting their limitations and identifying the UTAUT2 model as the most suitable framework for the current research. However, can technology truly be adopted without considering the essential roles of interaction and information, especially in the era of digital information? Similarly, can trust be overlooked in online transactions, particularly those involving financial products and services? The following subsections discuss these two key limitations in relation to the research context.

2.11.1 Overlooking the Role of Information

The critical role of information in digital transactions cannot be overstated. Its role in consumer decision-making is fundamental. This is also highlighted by John Howard's influential buyer behaviour model introduced in 1963 (Malter *et al.*, 2020), which positions information as the initial and essential input in the purchasing process. Previous research suggests that information quality, availability, access, clarity, and credibility significantly influence consumer decision-making (Tsao and Chang, 2010; Demangeot and Broderick, 2016; Akalamkam and Mitra, 2018; Shah and Paul, 2020).

With the vast availability of online data, consumers often struggle to filter relevant information. Social media, influencer recommendations, misinformation, AI-driven personalised content among others play a significant role in shaping purchase decisions. These factors are not explicitly addressed by the UTAUT2 model. One critical limitation of UTAUT2 is the absence of a construct that captures the influence of information in technology adoption. This gap is particularly evident in online contexts, where biased recommendations have heightened consumer scepticism.

2.11.2 Overlooking the Role of Trust

The absence of a trust factor within the UTAUT2 model presents a significant limitation, particularly in the context of e-commerce and digital financial services. Given the increasing reliance on online transactions, trust has become a critical determinant of consumer adoption behaviour. This limitation has been extensively highlighted in numerous studies (Singh *et al.*, 2017; Singh and Matsui, 2017; Hungilo and Setyohadi, 2020; Maulidina *et al.*, 2020; Singh and Sinha, 2020). It has motivated the extension of the model to incorporate trust as a key construct, addressing the concerns of consumers engaged in online purchasing of financial products and services.

Trust is particularly crucial in virtual environments, where consumers lack direct interaction with sellers and must rely on digital platforms, third-party assurances and perceived credibility to make informed decisions. Unlike traditional face-to-face transactions, where physical presence and institutional safeguards provide a sense of security, online transactions require consumers to place confidence in various factors. These include platform security, data privacy, service reliability and the credibility of the banking institution, among others. Therefore, trust-related concerns are expected

to exert an even greater influence on consumer behaviour, shaping perceptions of risk, willingness to transact and long-term engagement with digital financial services.

The next section examines information-seeking behaviour and its influence on online purchasing decisions, including information needs, sources, and models of information seeking. Furthermore, it provides a rationale for selecting the ELIS model as the most suitable and relevant complement to the UTAUT2 framework.

2.12 Information Seeking Behaviour

The term "information" has been broadly defined and interpreted by various researchers, leading to diverse explanations across multiple disciplines, depending on their unique perspectives (Buckland, 1991; Losee, 1997; Case and Given, 2016). This variation arises from the adoption and contextualization of the term within different fields. While some definitions share similarities, others differ and are tailored to the specific needs of their respective disciplines. Due to the inherent complexity of the concept, Losee (1990, as cited in Losee, 1997, p.1) proposed a domain-specific or discipline-specific approach to defining information. The researcher therefore defined information as "the values within the outcome of any process". Similarly, Buckland (1991) categorised the meaning of information into three distinct dimensions: "information-as-process," "information-as-knowledge," and "information-as-thing".

Some researchers associated the term information with meaning (Miller, 1987) while others associated the term with knowledge (Peters, 1988). Within the field of library and information science, specific definitions of information have also been proposed. Case and Given (2016) define information as the difference perceived by an individual in their environment or within themselves, which can lead to changes in their perception of the world around them. Furthermore, Belkin, Oddy and Brooks (1982), in their work on "ASK for Information Retrieval," conceptualize information as a technique for solving problems when there is inadequate knowledge.

We currently live in the "information age," a time characterised by the rapid generation and wide dissemination of information, particularly through digital technologies (Webster Dictionary, 2022). This era has also led to an overwhelming amount of information becoming available for consumption through various sources and channels, resulting, in some cases, in information overload. Information overload, also

known as "infobesity," refers to the overabundance of information, which can hinder the ability to synthesize and use it effectively for accurate and timely decision-making. Furthermore, the information age has given rise to challenges such as "misinformation," "disinformation," and "mal-information," collectively classified as "information disorder" (Wardle and Derakhshan, 2018). The authors categorise misinformation and disinformation as forms of "fake news." Misinformation involves the unintentional spread of false information, whereas disinformation entails the deliberate dissemination of falsehoods. While both forms involve false information, misinformation is spread by individuals who believe the information is true, whereas disinformation is propagated with intent to deceive.

In contrast, "mal-information," as defined by Wardle and Derakhshan (2018), refers to the dissemination of true information that is intended to cause harm or inflict pain on an individual, organization, or nation. This form of information, although accurate, is shared with malicious intent rather than serving any genuine public interest. These issues, collectively termed information disorder, have also contributed to the phenomenon of information avoidance, a concept that will be further discussed below.

Having explored various interpretations of information in the current age, the term "information seeking" is defined as the deliberate effort to acquire information required to close a knowledge gap (Case and Given, 2016). Other prominent researchers in information science (Wilson, 2000; Savolainen, 2007), have described information seeking as encompassing the methods individuals use to search for, acquire, utilise and share information across diverse contexts. Information seeking is often classified into two main categories: work-related and non-work-related (Savolainen, 2010a). Similar to the process-oriented definitions of Losee (1990) and Buckland (1991), information seeking is also conceptualized as a process that alters an individual's knowledge state through inputs, outputs and subsequent feedback (Ikoja-Odongo and Mostert, 2006). Information need, in this context, is understood as the awareness of a knowledge gap, which triggers information seeking. The need is fulfilled when the required information is discovered, comprehended, evaluated and applied.

Information seeking behaviour is defined as the "purposive seeking for information as a consequence of a need to satisfy some goal" (Wilson, 2000, p1). While information-seeking behaviour focuses on the active pursuit of information, the broader concept of

information behaviour encompasses both the act of seeking and avoidance of information (Case and Given, 2016). Information avoidance refers to actions or behaviours designed to delay or prevent the utilization of available yet undesirable information (Sweeny *et al.*, 2010). Consequently, information-seeking behaviour can be regarded as a subset of the broader domain of information behaviour.

For this study, the primary focus will be on information-seeking behaviour, specifically investigating how UK retail banking consumers actively or passively seek information to inform their decisions regarding the adoption of online purchasing. While the study acknowledges the concept of information avoidance, it is less likely to play a significant role in the context of consumer technology adoption. This contrasts with other domains, such as health-related information, politically charged topics or financial investment decisions. In these other contexts, individuals may avoid information that conflicts with their beliefs or causes discomfort. This includes avoiding health information or financial portfolio reviews during market downturns (Oster, Shoulson and Dorsey, 2013; Sicherman *et al.*, 2016; Golman, Hagmann and Loewenstein, 2017). Given its limited relevance to this consumer study, information avoidance will not be considered further. Instead, the study will focus on understanding how consumers seek relevant information.

2.12.1 Information Seeking for Online Purchasing

Purchasing is a multifaceted process, and consumers typically engage in extensive information-seeking activities to support their purchasing decisions before the actual transaction. Within the context of research, information seeking commences just after a consumer recognises the need to purchase a product or service. This recognition prompts the consumer to initiate problem-solving information-seeking behaviour to fulfil their needs. According to Ruthven (2019b), this behaviour is largely driven by the fact that most information searches are either task-based or aimed at problem-solving. This behaviour occurs regardless of the planned or intended purchase channel. However, information seeking for online purchasing may be more pronounced due to general internet apprehensiveness (Susskind and Stefanone, 2010). Factors such as user competences, security, trust, and privacy have been identified as contributors to consumers' internet apprehensiveness, inhibiting progress in consumer-related e-commerce (Miyazaki and Fernandez, 2001; Rifon, LaRose and Choi, 2005). Similarly, Parasuraman and Zinkhan (2002) noted that digital transactions present potential risks

to consumers, including concerns over privacy, security, product information and payment conditions.

The ability of consumers to trust the internet as a secure and reliable platform is a crucial factor in online purchasing, especially when it comes to financial products. The complex nature of financial products often leads to more extensive and in-depth information seeking (Karimi, 2013). Consequently, consumers are likely to seek information from multiple sources and channels to address their information needs. This aligns with the work of Chan *et al.* (2015), who suggested that the choice of distribution channel plays a significant role in influencing consumers' information-seeking behaviour. Their findings are consistent with those of Chaturvedi, Gupta and Hada (2016), whose empirical study suggested that information seeking influences the purchasing behaviour of consumers buying apparel through social media e-commerce sites in India. Ramaswami, Strader and Brett (2000) employed a Motivation Ability Opportunity (MAO) framework to examine consumers' online information-seeking and purchasing behaviours for financial products. Their findings suggest that consumers often use online channels as an initial step to access additional information sources and to gather relevant information prior to making a purchase.

In the context of information seeking, this study aims to explore the information seeking behaviour of UK retail banking consumers across multiple information sources and channels. It also seeks to examine how this behaviour influences their online purchase intentions. While previous studies on information seeking in technology adoption have largely focused on the digital environment (Susskind and Stefanone, 2010; Bahtar and Muda, 2016; Shah and Paul, 2020) they often overlook the full spectrum of information seeking sources and channels available to users or consumers of that technology.

2.12.2 UK Retail Banking Consumers' Information Needs

Different researchers in the field of Information Science (IS) have defined information needs. It is a concept fundamental to numerous studies and models within the domain of information science (Savolainen, 2017). Despite its widespread use, the concept of information need remains poorly understood (Savolainen, 2017, as cited in Ruthven, 2019). Krikelas (1983) defined information need as the gap between the information currently possessed by an individual and the information that the individual perceives as necessary to make a decision. This perceived gap, therefore, creates an information need. Case and Given (2016) defined information need as the recognition of a gap in

knowledge required to achieve a particular goal. The awareness and acknowledgment of something missing trigger information seeking to address the knowledge gap and resolve uncertainty.

Consumers often find purchasing financial products to be a complex process due to associated risks, leading them to embark on the process of information seeking to satisfy their various information needs. According to Ramaswami, Strader and Brett (2000) in their work on the determinants of online channel use for purchasing financial products, consumers typically lack comprehensive knowledge of financial products and do not have the necessary time to cultivate relationships with financial advisers. As a result, consumers increasingly seek innovative methods of obtaining financial information to meet their needs while exploring alternative channels for purchasing financial products.

In the context of this research, information needs arise when a customer or potential customer recognizes a lack of complete knowledge necessary to support the decision to purchase online. This recognition of a deficiency in knowledge initiates the search for relevant information regarding the problem area. This information could pertain to product or service details, pricing, brand reputation, network stability, internet safety, privacy concerns, after-sales support, or other related factors. The information sought ultimately aids the consumer in making an informed decision about whether to purchase online.

Some researchers consider information need to be the primary need, as it directly triggers information seeking (Taylor, 1967; Taylor, 2015). Conversely, others argue that information need is not a primary need but rather a secondary one that arises as a means to satisfy a more fundamental, critical need (Wilson and Streatfield, 1981; Wilson, 2000). These researchers assert that information need is always associated with an initial critical need, which subsequently prompts the information seeker to recognize a gap in their knowledge. Ruthven (2019a) proposed that these primary needs, or the situations that necessitate information, should be the focal point of investigation. Some researchers share both perspectives. For instance, Savolainen (2017) suggested that information need is either a primary or secondary need depending solely on how that need drives or motivates the information seeking.

2.12.3 Information Seeking Sources and Channel Preferences

During the pre-purchase stage, consumers utilise various information sources and channels to support their decision-making processes. These sources include both online and offline channels. The type of information needed, such as pricing, product details, internet safety, brand reputation or post-sales support often determines the preferred source or channel (Ward and Morganosky, 2002; Broilo, Espartel and Basso, 2016; Chen *et al.*, 2016).

These sources significantly influence consumers' behavioural intentions to adopt online purchasing of consumer banking products. Ramaswami, Strader and Brett (2000) discovered that consumers seeking financial information online are more likely to complete transactions through the same channel, highlighting the interconnectedness of information sources and purchasing behaviour. The authors further noted that consumers consistently seek new sources and channels to obtain financial information, and the requisite knowledge needed to purchase financial products and effectively manage their financial futures.

Various information sources are available to consumers, which support their journey through the purchasing process. In some cases, the type or category of information needed determines the source or channel required to fulfil these needs. For the purposes of this research, the scope of information sources includes internet search engines, friends and family, colleagues, bank branches, bank websites, financial advisers, and online aggregators. Investigating the sources and channels utilised by information seekers is as critical as understanding their specific information needs.

The significance of information sources in decision-making necessitates research that not only examines the information needs of participants but also identifies their primary pre-purchase information sources and the rationale behind their preferences. This research aims to provide insights into information gaps experienced by consumers, the channels through which they seek necessary information, and the sources deemed most relevant. Understanding these dynamics will enable consumer banking decision-makers, marketers, and product designers to publish the right information on the most consulted sources, deliver essential information, and address the underutilization of certain sources. Additionally, this will provide insights into the type of information required or missing from banking websites, encouraging financial institutions to enrich

online content and motivate consumers to seek information online, thus reducing reliance on physical bank branches.

The anticipated outcomes include reduced customer journey, time and cost savings, and enhanced customer satisfaction, ultimately driving higher net promoter scores through increased consumer trust. To explore the behaviour of retail banking consumers and address the research questions related to information needs and preferred sources, this study adopts the problem-specific Everyday Life Information Seeking (ELIS) model (Savolainen, 1995, 2008b) as its theoretical framework. Section 2.12.5 provides a detailed discussion of the suitability of this model.

2.12.4 Models of Information Seeking Behaviour

Over the years, information scientists have developed numerous models to explain information behaviour. While these models primarily emphasise information seeking activities, their applicability varies depending on the research context and the characteristics of the study participants. In other words, the selection of an appropriate model is contingent upon its relevance to the specific use case. This section reviewed selected models of information seeking behaviour, with particular attention to the rationale for selecting the problem-specific Everyday Life Information Seeking (ELIS) model as the most appropriate framework for this research. It is important to note that not all available information seeking models were examined. The scope of this research focused on understanding the factors influencing consumers' intention to adopt a technology, while integrating an information seeking framework to explore how perceived information impacts intention to purchase online. To provide a comprehensive foundation, technology acceptance models have been reviewed in detail in the preceding section.

2.12.4.1 *Wilson's Model of Information Behaviour*

Wilson's information behaviour model posits that information-seeking is a result of a perceived need, which triggers the action taken by the user to search for information through formal or informal sources or channels, resulting in either success or failure (Wilson, 1981). In this model, success refers to the utilization of the information found to fully or partially satisfy the need. Wilson and Walsh (1996) later revised the initial model to incorporate "information processing and use," recognizing that for information needs to be satisfied, the processing and use of information become crucial components in the sequence of information activities, starting from the identification of

the need to the stage when information is used (Kundu, 2017). Wilson conceptualizes the information-seeking process as a stage-by-stage problem-solving activity.

A limitation of this model, in the context of this research, is that it has not been empirically tested (Wilson, 1999). Additionally, the model is primarily applied in academic and work-related contexts. While Wilson's model tends to classify information sources and systems systematically, the ELIS model acknowledges information sources and places greater emphasis on how these sources align with the habitual and everyday context of individuals' lives, rather than categorizing or analysing them in depth. Adopting a more holistic approach, the ELIS model prioritises understanding how individuals incorporate available information sources into their daily routines to fulfil their information needs, rather than focusing on the structure or organization of the sources themselves.

2.12.4.2 Krikelas' Model of Information Seeking Behaviour

Krikelas (1983) model illustrates that the perception of a need by a user is within the context of the user's environment. This need arises from a recognition of a gap in knowledge that requires resolution before using the outcome of the resolution to solve a problem. The knowledge gap prompts the search for information, often through multiple sources and channels. As suggested by Wilson (1981), the information search process can result in either success or failure, and failure may lead to the repetition of the information-seeking activity.

Krikelas' model acknowledges that individuals are both senders and receivers of information, as these roles are interdependent (Case and Given, 2016). Krikelas (1983) further subdivided information-seeking into immediate needs and long-term needs, with immediate needs being satisfied through both internal and external sources (Garg, 2016). While Krikelas' model is one of the earliest in information-seeking, and has been described as a generic model applicable across all domains, it has been suggested that it retains the characteristics of a "library search model" (Case and Given, 2016). Additionally, the model's representation of source preferences does not account for consumer preferences or channels and lacks the concept of preference criteria or a sequence of information use.

2.12.4.3 *Dervin's Sense-Making Theory*

Dervin (1983) theory of sense-making consists of four core elements: situation, gap, bridge, and outcome. The situation refers to the moment when an information problem arises or when an information seeker becomes deficient in information. The gap indicates inadequate knowledge or a barrier to understanding. In other words, the gap is the difference between the current state and the desired state. Outcome is the result of the sense-making process or activity, often depicted as the use of acquired information to satisfy the information need or complete a task. The bridge represents the link between the situation and the outcome, serving as the only means of crossing from the situation to the outcome (Dervin, 1983). To simplify the model, Dervin presents it in a triangular form: situation, gap/bridge, and outcome. This model is one of the simplest and most straightforward models of information-seeking and has been applied in empirical studies outside academic settings (Kundu, 2017). However, its limitations in the context of the current research include its lack of consumer features. The four components of this model are limited and not directly relevant to the current study. Newer models that are better suited for consumer research have been developed.

2.12.4.4 *Ellis' Model of Information Seeking Behaviour*

Ellis (1989) behavioural model of information seeking categorises the information-seeking process into eight features based on the study of scholars' behavioural patterns. Ellis' use of features, rather than stages, suggests that information-seeking does not follow a fixed pattern or sequence; instead, each problem situation determines the activities or features applied by the information seeker. Ellis' features of information-seeking include "starting, chaining, browsing, differentiating, filtering, monitoring, extracting, and ending" (Kundu, 2017).

Ellis' model represents a significant contribution to the field of information science and has been empirically applied in various studies (Choo, Detlor and Turnbull, 1998, 1999). However, Ellis conducted his studies prior to the advent of the World Wide Web, and his work primarily focused on academic and industrial environments (Meho and Tibbo, 2003). The model was originally designed to address information-seeking in library settings that relied on paper-based resources, rather than electronic or online catalogues (Shah and Paul, 2020). Consequently, the Ellis model is not suitable for application in consumer settings, particularly in research that seeks to understand

consumer adoption of internet services. Similar to Wilson's model, the Ellis model does not address the relevance of information sources and source preferences in satisfying information needs.

2.12.4.5 Kuhlthau's Information Search Process

Kuhlthau (1991) model of information search categorises the information-seeking process into six distinct stages: Initiation, Selection, Exploration, Formulation, Collection, and Search Closure/Presentation. Kuhlthau's use of defined stages contrasts with Ellis' use of features, which suggest that the order of activities depends on the specific requirements of the situation. The Kuhlthau model incorporates the associated feelings, thoughts, and actions involved in the information-seeking process (Ganaie and Khazer, 2014). According to Savolainen (2015), Kuhlthau's model was one of the pioneering models in information behaviour to highlight the significant role of affect in information seeking, a feature shared with other models, including those by Given (2007) and Nessel (2013).

Kuhlthau (1991) recognises the search activity as an active process that engages both the thoughts and the feelings of uncertainty experienced by the information seeker, particularly during the initial exploration stage. As the search becomes more focused, uncertainty decreases, leading to the formulation stage. The strength of this model lies in its incorporation of affective, cognitive, and behavioural factors in the information-seeking process, and its empirical testing. However, the model was applied to a sample of library users, primarily high school seniors. While the impact of affective and cognitive factors is relevant in all contexts, the features embedded in this model seem more suitable for academic or work-related environments.

In consumer contexts, information-seeking may involve a broader range of approaches, influenced by preferences for information sources and the ways in which those sources are engaged. Thus, the model is unsuitable for the current research. Therefore, a more appropriate model is required to capture everyday information-seeking behaviours in consumer contexts. This necessity led to an exploration of the ELIS model to assess its suitability for the current research.

2.12.5 Problem-Specific ELIS Model and Rationale for Selection

Information behaviour research has predominantly emphasised job-related and academic contexts, neglecting the crucial and fundamental activities that individuals

engage in as part of their daily lives, such as shopping (Case and Given, 2016). Work and non-work information-seeking are complementary and should not be treated as separate entities (Savolainen, 2010a). This has led to increased attention to integrating information-seeking into everyday life activities, such as leisure and solving daily life problems. Studies in ELIS have helped to identify the most relevant information sources used in everyday information-seeking to meet information needs (Savolainen, 2008b).

Additionally, ELIS studies have proven to be suitable for applications in consumer behaviour research. One of the early pioneering surveys of ELIS, involving over a thousand participants from diverse demographic groups, revealed consumer habits as one of the key themes emerging from the study (Savolainen, 2010a). Savolainen's work focuses on everyday life concerns rather than academic or professional needs (Savolainen, 1995). The ELIS model is grounded in personal routines, social context, practical needs and daily life situations. Savolainen (2009) applied the model in a related domain to study consumers, specifically homebuyers, and identify key factors influencing their choice of information sources during the home-buying process. The study revealed that the timeliness of information was particularly crucial due to the rapidly changing financial market.

Notable researchers in ELIS include Elfreda Chatman, Karen Fisher, and Brenda Dervin. Chatman investigated ELIS in the context of how marginalized groups, particularly low-income individuals, seek, use, and share information. Dervin explored the communication practices of poor urban population (Savolainen, 2010a). Spink and Cole (2001) applied ELIS to understand the information needs and preferred information channels of low-income African American households. More recently, Ryan (2018) adopted the problem-specific ELIS model to predict the information source and channel preferences of a sample of Australian citizens following a disaster alert.

Savolainen (2010a, p2) classified Everyday Life Information Seeking (ELIS) into two distinct modes: seeking "orienting information" and seeking "problem-specific information." The former pertains to information-seeking aimed at increasing knowledge or awareness of one's environment, while the latter is driven by the need to solve a specific problem or find facts that help address an issue. This research

adopts the problem-specific ELIS model (Savolainen, 1995), along with the conceptual frameworks of information source horizons and information pathways outlined by Savolainen (2008b). These concepts are visually represented in Figures 2.13 and 2.14 respectively.

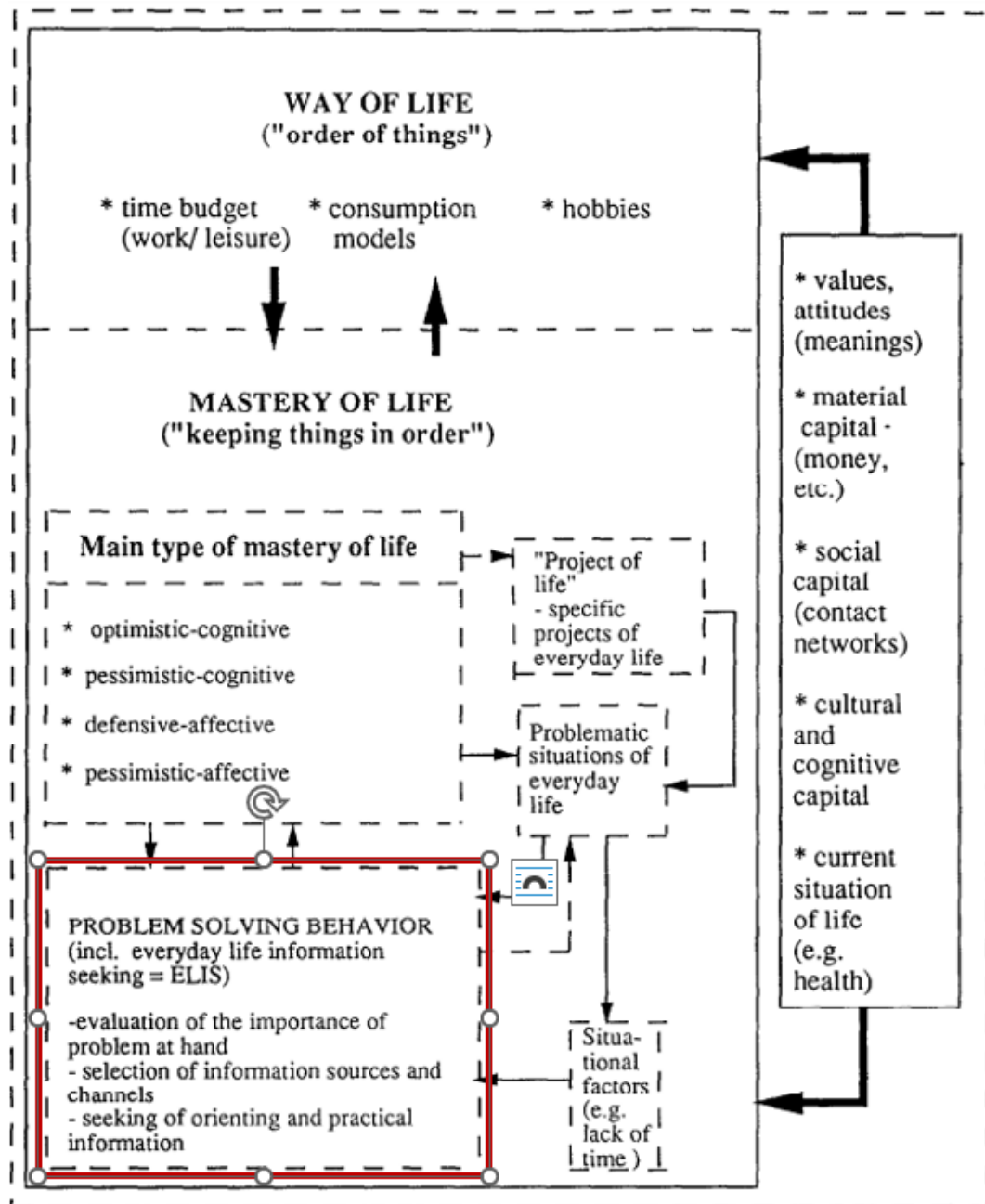


Figure 2.13: The basic components of ELIS in the context of "Way of Life"
(Savolainen, 1995)

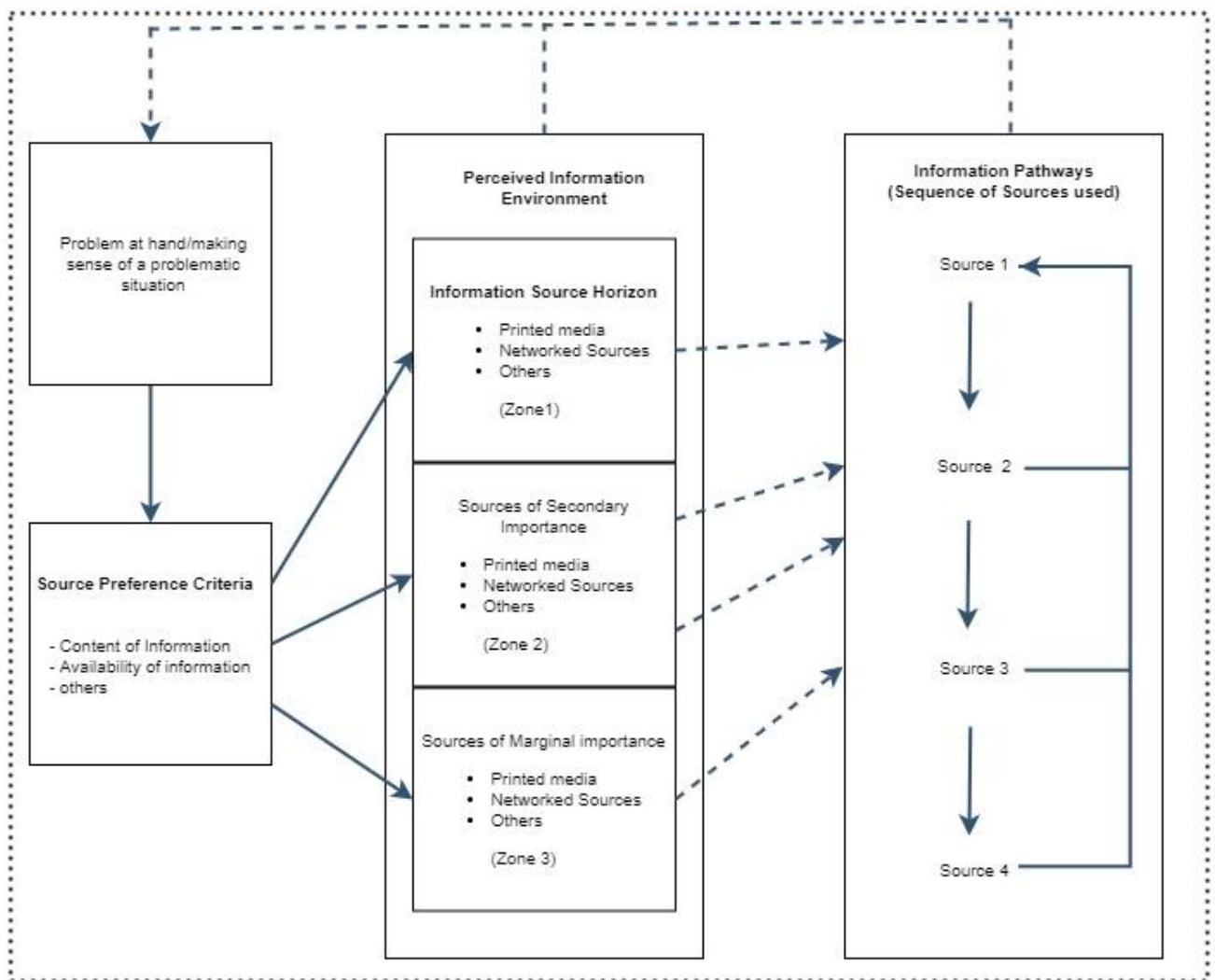


Figure 2.14: Source horizon and pathways for problem-specific information
(Savolainen, 2008b)

The problem at hand is the need to purchase a consumer banking product or service. ELIS model has been employed in various research contexts to identify both information needs and sources, including source preferences, making it the most relevant framework for the current study. Furthermore, it has been suggested that empirical research into source preference criteria, specifically how individuals evaluate alternative sources of information, has been largely overlooked by scholars, with most studies merely listing information sources used (Savolainen, 2008b).

Figure 2.13, with the area highlighted in red, illustrates problem-solving behaviour, encompassing the various methods and strategies individuals employ to address everyday life challenges (Savolainen, 1995). Meanwhile, Figure 2.14 outlines the process through which individuals seek information to resolve such problems, utilizing diverse sources and channels. The framework integrates the concept of information

source preferences and the criteria that shape these preferences. This will assist in addressing research questions 2a and 2b, which aim to explore the preferred primary information sources of UK retail banking customers before engaging in online purchasing, and the reasons behind their choice of sources.

The order of source preference is determined by the information seeker relative to certain criteria deemed relevant by the individual. These criteria include the content, validity, and completeness of the information, as well as factors such as ease of access and availability. Based on these criteria, the information seeker organises sources in order of preference, with the most relevant sources assigned to Zone 1, secondary sources placed in Zone 2, and marginal sources assigned to Zone 3. Some individuals may have more than three zones or groupings of information sources, while others may only distinguish between primary and secondary sources. Previous research has also identified scenarios where individuals demonstrated no explicit preference between two information sources (Sonnenwald, Wildemuth and Harmon, 2001).

It is important to recognise that the order of source preference may not always align with the actual sequence in which sources are used. Savolainen (2008b) introduced the concept of information pathways, referring to the sequence in which sources are employed within the information source horizon. Information seeking can follow various pathways across available information fields (Johnson *et al.*, 2006). In the context of this study, an example might involve an information-seeking sequence like internet search → consultation with family and friends → visiting a bank branch → consulting a financial adviser. Savolainen (2006) further described the information pathway as dynamic and active, encompassing the route an individual follows in their attempt to gather answers from within an information source horizon. The pathway, however, may evolve, as the order in which sources are used can differ from the order in which they are initially accessed. For example, an individual may accept or reject information, continue seeking alternative sources or based on initial findings, revise the order of their source preferences. Additionally, initial findings may alter the perception of the problem at hand, prompting a redefinition of source preference criteria and thus leading to changes within the information source horizon (Savolainen, 2008b).

Studies examining pre-purchase information-seeking behaviour across varied sources and channels during decision-making, particularly in the context of online versus offline

purchasing, have been scarce. Moreover, there is a lack of research exploring how this pre-purchase activity influences technology acceptance, especially as UK banks transition to more digitally focused, customer-centric business models. While banks periodically conduct surveys to gain insight into consumer preferences and generate internal reports to monitor the uptake of digital propositions, these efforts are often fragmented, narrow in scope, and lack a comprehensive understanding of consumer behaviour. Most importantly, these studies do not rely on any theoretical framework. Thus, it is crucial not only to quantify consumer behaviour but also to understand the reasons behind it.

2.13 Limitations of the Problem-Specific ELIS Model

The Everyday Life Information Seeking (ELIS) model by Savolainen (2008b) is widely used in research to understand how individuals seek information in daily life. However, despite being the most suitable model for the research context, it still has certain limitations. The ELIS model was developed before the widespread adoption of digital technologies. Therefore, it does not fully account for online information-seeking behaviours and sources such as the use of bank websites and search engines, some of which are key information sources in this research.

The limited consideration of digital information seeking results in a lack of emphasis on the trust and credibility of online information sources. In an era of misinformation and disinformation, consumers increasingly rely on trust-based models, which the current ELIS framework does not provide. While the model primarily explains how individuals seek information, it does not thoroughly analyse how individuals process, evaluate, and utilise this information in decision-making, particularly in online purchasing. Furthermore, ELIS does not account for the relationship between technology adoption and information-seeking behaviour. Additionally, ELIS does not consider passive information seeking. For example, online consumers may be influenced by recommendations through AI algorithms rather than actively searching for information.

To enhance ELIS model and its applicability in modern consumer contexts, integrating trust factors and digital interactions to support decision-making is essential. This research addresses these limitations by incorporating perceived trust into the UTAUT2 model. Stouthuysen *et al.* (2018) emphasised that trust is central to the success of

buyer-seller relationships, regardless of the transaction channel. While the ELIS model has a limited focus on digital interactions, integrating the model with UTAUT2, which includes constructs such as effort expectancy, performance expectancy, social influence and habit, helps bridge this gap. The integration mitigates its inherent limitations, enhances its applicability to online contexts and ensures its relevance for contemporary use. By leveraging the strengths of both models, the proposed integrated model, as illustrated in the next section, emerges as the most suitable framework for this research.

2.13.1 Evaluating ELIS and EEIP in the Study Context

The Expanded Everyday Information Practices (EEIP) model (Savolainen and Thomson, 2022) tends to address the gap identified above in the ELIS model. EEIP builds on the Everyday Information Practices (EIP) framework (Savolainen, 2008a) by incorporating the impact of digital and networked environments. It highlights how online platforms, social media, and participatory digital spaces have altered the ways individuals search for, use, share, and create information. Additionally, it addresses how individuals assess the credibility of this information and the trust they place in digital sources and user-generated content.

Nevertheless, this study utilises the Everyday Life Information Seeking (ELIS) framework due to its established and widely accepted use in information behaviour research, particularly in understanding how individuals seek and use information in everyday life. ELIS has been extensively applied and tested across various domains, ensuring theoretical consistency and enabling easier comparison with previous studies. In contrast, while EEIP offers valuable insights, it remains a more recent extension that has not been as thoroughly adopted, especially within the financial and banking sectors, where information behaviour research is still evolving.

Furthermore, the research encompasses online and offline consumers, making ELIS a better fit as it focuses on both traditional and digital information-seeking behaviour, rather than the digital environment emphasised by EEIP. ELIS offers a clear framework for examining source preferences and selection criteria, which aligns closely with the objectives of this study. Moreover, the research focuses on bank-generated information, rather than user-created content, which reduces the relevance of

examining how individuals generate information. While EEIP emphasises interactive and participatory information behaviours, this research is more concerned with individual decision-making processes, specifically the pre-purchase information needs of UK retail banking customers and their selection of information sources before making online purchase. Therefore, ELIS is the more suitable theoretical framework for this study.

2.14 The Conceptual Framework

The theoretical foundation of this research is anchored in the technology acceptance theories and models reviewed in the preceding section. Tamilmani *et al.* (2021) classified studies utilizing the UTAUT2 framework into three primary categories: UTAUT2 application, UTAUT2 extension and UTAUT2 integration. Studies employing UTAUT2 application typically utilise the entirety or specific components of the model, including its constructs and moderators, without the inclusion of additional variables or theoretical frameworks. For instance, the study conducted by Nordhoff *et al.* (2020). exemplifies this category. Research categorised under UTAUT2 integration involves combining the UTAUT2 model, wholly or partially, with one or more established theories of academic significance within a study framework. Examples of this approach include the works of Oliveira *et al.* (2014), Thusi and Maduku (2020) and Migliore *et al.* (2022). Studies classified as UTAUT2 extension involve the addition of external variables to the original UTAUT2 model without incorporating other theoretical frameworks. This approach can be observed in the works of Singh *et al.* (2017) and Marpaung *et al.* (2021). Within this context, the framework of the present study adopts the UTAUT2 integration approach. Figure 2.15 illustrates the conceptual framework of the study.

The central feature of the research model is the partial integration of the Problem-Specific Everyday Life Information-Seeking (ELIS) model and the concept of perceived trust into the UTAUT2 framework. This integration facilitates the investigation of the role of perceived trust and perceived information, the latter being influenced by consumer information seeking behaviour. Information source preference criteria and the perceived information environment (Savolainen, 2008b) were also incorporated. Consumer acceptance of novel technological innovations is inherently complex, requiring a more comprehensive and integrated perspective to uncover underlying

behaviours that may remain obscure when relying on a single model or theory (Shen *et al.*, 2010; Jackson, Mun and Park, 2013).

Furthermore, while UTAUT2 is widely cited in information science research on technology adoption, Tamilmani *et al.* (2021) noted that many studies fail to employ the full range of constructs and moderators outlined in the original model. This omission limits the generalisability of findings. Venkatesh, Thong and Xu (2012) similarly observed that most studies either utilise a subset of UTAUT2 constructs or exclude the moderators altogether. To address these limitations, this study adopts an integrated approach that reintroduces all UTAUT2 constructs, except for hedonic motivation, which has been substituted with perceived trust. Previous studies indicate that the purchasing of financial products is not fun (Widodo, Irawan and Sukmono, 2019; Thusi and Maduku, 2020). Additionally, integrating the problem-specific ELIS framework into the UTAUT2 model aims to provide a more comprehensive understanding of the factors influencing consumer acceptance of technological innovations.

The following section provides a detailed discussion of these new additions, constructs and moderators, highlighting their role in enhancing the features of the UTAUT2 model for applicability to the research context.

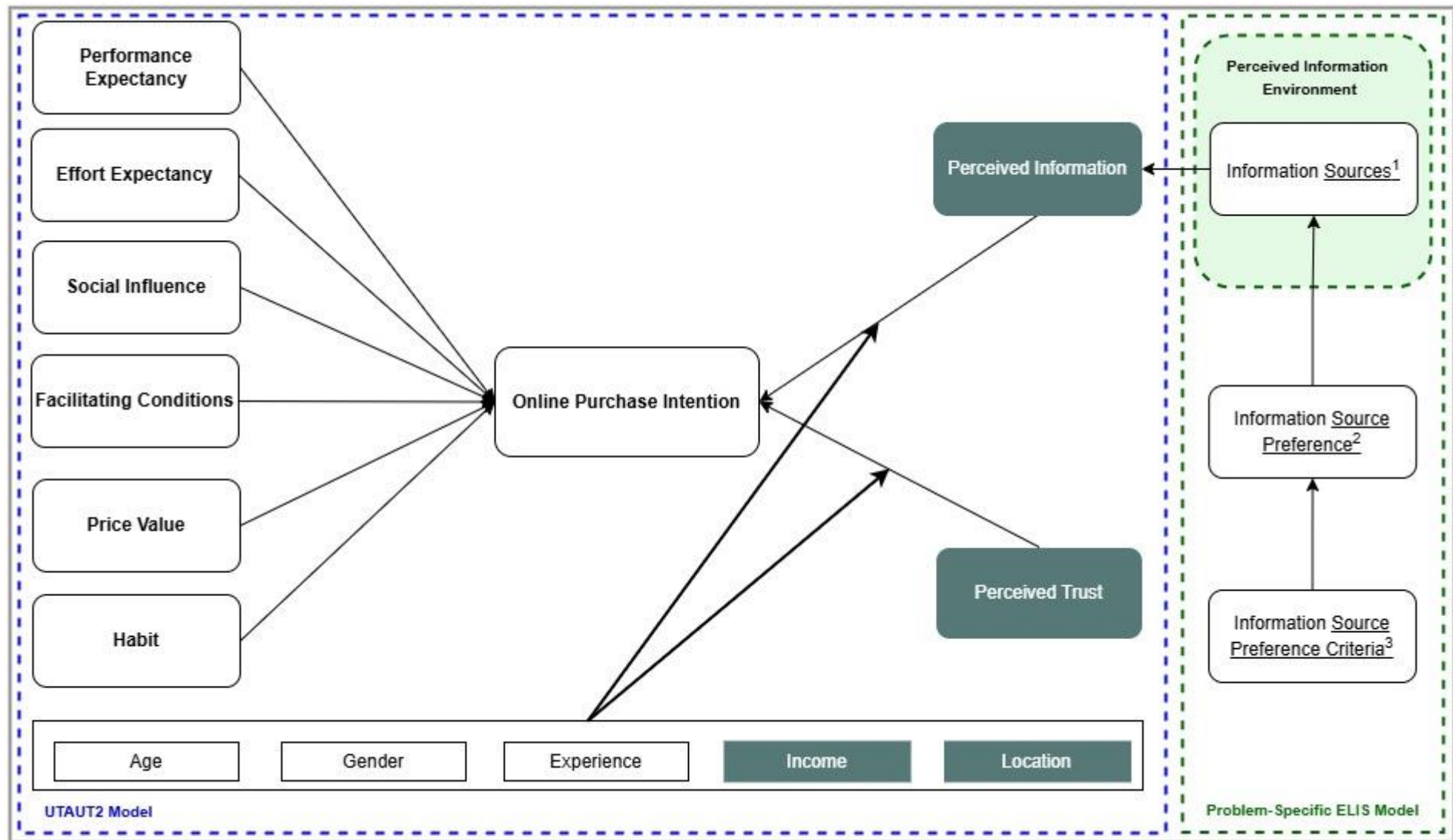


Figure 2.15: Proposed research model - integrated UTAUT2 for online purchasing

2.14.1 New UTAUT2 Constructs

2.14.1.1 *Perceived Information*

Numerous studies have explored the impact of information seeking on consumers' online purchase intentions. Kau, Tang and Ghose (2003) found that most consumer groups conduct information searches before making an online purchase. Similarly, Hjorthol (2009) demonstrated that various consumer segments use the internet to seek information before purchasing different types of products. Chaturvedi, Gupta and Hada (2016) further identified information seeking as a key factor influencing online apparel shopping. However, no studies have been identified that applied UTAUT2 integration to examine the relationship between information-seeking and online purchase intention within the UK retail banking sector.

Purchasing is a complex, multi-stage process that does not begin only at the point of transaction commitment. Kotler (2000), argues that when consumers recognise a need to purchase, they experience a state of tension, which drives them to search for information and evaluate various alternatives before making a final decision. Furthermore, Kotler emphasises that this stage is crucial, as the information acquired not only informs the initial purchasing decision but also influences post-purchase behaviour, such as product or service usage and overall satisfaction. Likewise, previous research has identified pre-purchase information seeking as a fundamental component of consumer decision-making, significantly affecting purchase outcomes (Häubl and Trifts, 2000; Ramaswami, Strader and Brett, 2000; Shim *et al.*, 2001). Understanding the role of information seeking in this context is particularly important in online consumer behaviour, where the availability of digital information sources plays an increasingly influential role in shaping purchasing decisions.

2.14.1.2 *Perceived Trust*

Previous studies have examined trust within the context of consumer-firm relationship and its role in influencing purchasing behaviour, considering factors such as firm reputation, customer loyalty, and service satisfaction (Badrinarayanan *et al.*, 2012; Akroush and Al-Debei, 2015; Al-Debei, Akroush and Ashouri, 2015; Bilgihan, 2016). In alignment with these studies and drawing on the definitions of trust outlined in Section 2.7, this research adopts a similar perspective. Specifically, it focuses on examining trust between individuals and organizations, more precisely focusing on the trust between consumers (trustors) and UK retail banking institutions (trustees). Furthermore, this study aims to explore, from the consumers' perspective, other trust-related factors that influence their behavioural intention

to adopt online purchasing of financial products and services. For instance, a consumer's ability to trust both the e-commerce environment and the banking infrastructure as secure and reliable becomes a critical determinant of their online purchasing behaviour.

This research seeks to provide a comprehensive understanding of consumers' perceptions and interpretations of trust and its impact on the adoption of online purchasing. It examines both pre-use and post-use trust factors, which is particularly important given the inherent risks associated with digital transactions. These risks include concerns related to privacy and security, the accuracy of product information, and the terms and conditions of payment (Parasuraman and Zinkhan, 2002). Existing literature has consistently identified a positive relationship between trust and consumers' behavioural intention to adopt online purchasing or services (Chiang and Dholakia, 2003; Chen and Barnes, 2007; Dash and Saji, 2008; Singh and Sinha, 2020; Wu, Lee and Tian, 2021). A recent study by Lin, Wang and Hung (2020) on factors influencing the adoption of online banking also highlighted trust as a critical element in e-commerce transactions, where the parties involved are not physically co-located.

The following subsection discusses the newly introduced moderating variables, income and location, within the context of the proposed integrated UTAUT2 model, aiming to examine how financial capacity and geographical location may influence customers' intention to purchase financial products online.

2.14.2 New UTAUT2 Moderators

2.14.2.1 *Income*

Economic factors should be considered when examining consumer behaviour to provide a more comprehensive and balanced understanding of the factors influencing the acceptance of technological innovations (Shao and Siponen, 2011). Prior research on consumer information-seeking behaviour and purchase decision-making has identified income as a significant determinant in shaping consumer choices. Chan *et al.* (2015) employed Assael's "Consumer Information Acquisition and Processing" model in an empirical study investigating the information-seeking behaviour and decision-making processes of individuals who had either purchased or were planning to purchase digital cameras. Their findings revealed a strong correlation between income levels and the effort invested in information-seeking, with higher-income consumers devoting more time to researching information before making a purchase.

Similarly, Agarwal and Dixit (2019) identified income as a potential factor influencing consumers' choice of shopping channels in their study on the impact of channel selection on shopper satisfaction. According to the World Bank Report (2018), as cited in Menrad and Varga (2020), high income consumers are more likely to adopt digital banking services compared to low income consumers. Figure 2.16 illustrates this trend. No known studies have specifically investigated the moderating effect of income on the adoption of online purchasing of financial products. Nevertheless, some studies have explored the influence of income on the adoption of mobile banking (Shafinah *et al.*, 2013; Abegao Neto and Figueiredo, 2023). Within the broader context of technology acceptance, previous studies applying the UTAUT2 model in consumer settings have found income to be a predictor of online purchase intentions (Haryoto, 2015; Human, Ungerer and Azémia, 2020). Given the complexity of financial products and the additional risks associated with online transactions, it is plausible that higher-income consumers exhibit a greater propensity to trust online purchasing than lower-income consumers. This study seeks to provide further insights into this hypothesis.

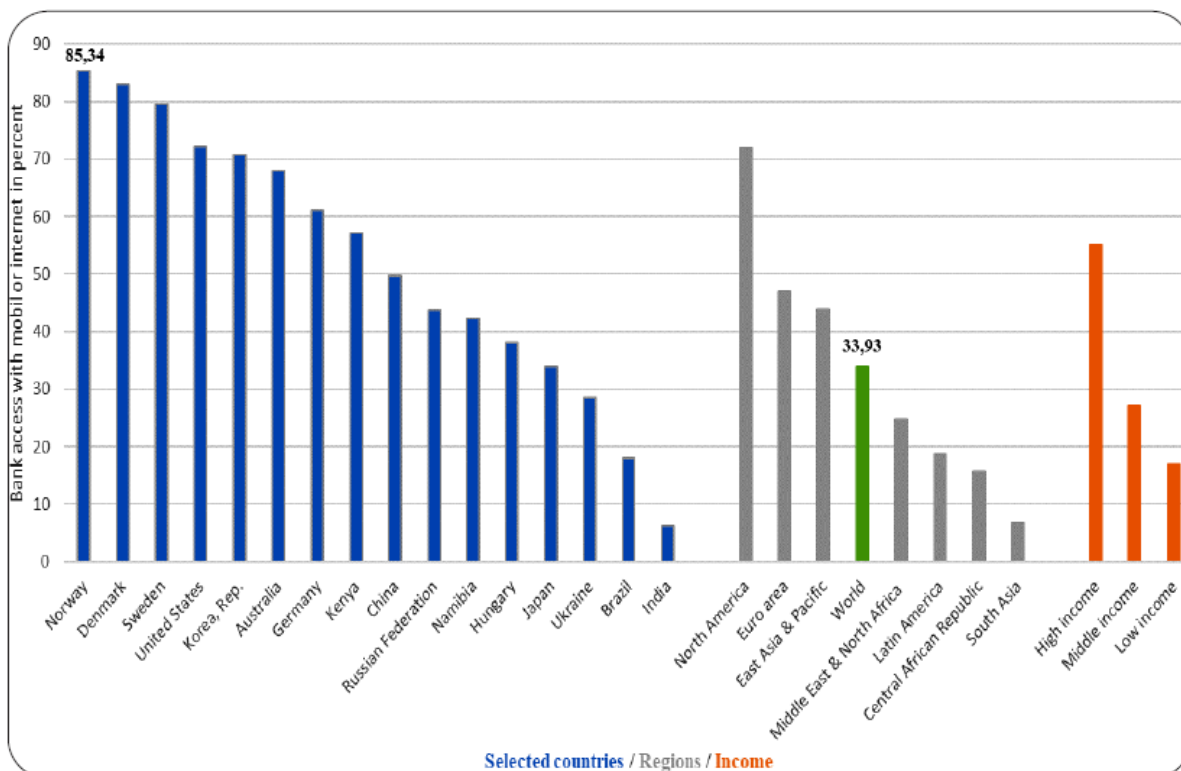


Figure 2.16: Percentage of bank access through internet or mobile phone
World Bank Report, 2018, as cited in Menrad and Varga (2020)

2.14.2.2 *Location*

The theoretical framework adopted for this study does not account for the moderating effect of consumers' geographic location on other variables influencing behavioural intention to adopt technological innovations. However, recent trends in the retail banking sector, particularly the widespread closure of bank branches, highlight the need to examine the role of consumer location in shaping online purchasing adoption.

In recent years, the UK consumer banking industry has experienced a significant reduction in local bank branches, often with little to no accompanying financial literacy support for consumers. Approximately 6,000 bank branches have closed across the UK since 2015 (Which?, 2024). The COVID-19 pandemic has further accelerated this trend, with more closures expected in the near future. This decline in physical bank branches has disproportionately affected consumers who may have limited access to digital banking alternatives.

The International Telecommunication Union (2021) highlights a persistent urban-rural connectivity gap, with many rural areas lacking adequate internet access and lower rates of household internet adoption. A similar finding was reported by Ofcom (2023), which noted that 7% of UK households lack internet access at home. The lack of access was even more prevalent among those aged 65 and older, with 18% reporting no internet access. Tariq et al. (2021) found that the factors influencing the adoption of mobile financial services differ between rural and urban consumers in Pakistan. Given that rural residents constitute nearly 11 million of the UK's total population (Statista, 2022) their exclusion from digital banking services presents a critical issue that warrants further investigation. Figure 2.16 shows that customer income and geographical location affect interaction with digital banking services. Therefore, these factors are crucial for further investigation into their impact on digital channel usage for purchasing financial products.

To address this gap, the study incorporates geographic location into the UTAUT2 model to assess its moderating effect on online purchasing behaviour among urban and rural consumers. This approach provides insights into how location influences the adoption of digital financial services and its broader impact on financial inclusion.

A review of existing literature highlights that while technology acceptance models such as UTAUT and UTAUT2 have been widely applied across various sectors, their specific use within the UK retail banking context, particularly to examine online purchasing behaviour remains limited. Existing studies often fail to incorporate constructs like perceived information and perceived trust, despite their demonstrated relevance in shaping consumer decisions in complex, intangible service environments. Moreover, while information seeking and trust have been examined independently in broader contexts, few studies have explored consumer information-seeking behaviours in e-commerce, and none have systematically integrated information-seeking behaviour with UTAUT2 within a tailored, theoretically grounded framework suited to retail banking. This gap is particularly salient given academic, and industry calls for more customer-centric research that reflects the realities of digital transformation in banking. Responding to this need, the present study advances existing frameworks by embedding the ELIS model into UTAUT2 and incorporating trust which is an essential element for online transactions. Together, these additions offer a more holistic understanding of the drivers and barriers to online purchasing in UK retail banking.

2.15 Research Hypotheses

The proposed research model includes eight independent variables influencing behavioural intention to purchase consumer banking products and services online, along with five moderating variables assessing the strength of the relationship between the dependent variable and perceived information and trust. To address the identified research gap, eighteen hypotheses are formulated to examine intention to purchase online, specifically addressing research question three (RQ3) and fulfilling research objectives three (RO3) and four (RO4) as outlined in Chapter One, Sections 1.5 and 1.6.

Table 2.1: A list of the research hypotheses

ID	Description
H1	Performance Expectancy (PE) will positively influence customers' intention to purchase banking products online.
H2	Effort Expectancy (EE) will positively influence customers' intention to purchase banking products online.
H3	Social Influence (SI) will positively influence customers' intention to purchase banking products online.

H4	Facilitating Conditions (FC) will positively influence customers' intention to purchase banking products online.
H5	Price Value (PV) will positively influence customers' intention to purchase banking products online.
H6	The Habit (HT) of online shopping will positively influence customers' intention to purchase banking products online.
H7	Perceived Trust (PT) will positively influence customers' intention to purchase banking products online.
H8	Perceived Information (PI) will positively influence customers' intention to purchase banking products online.
H9	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.
H10	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.
H11	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.
H12	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.
H13	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.
H14	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.
H15	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.
H16	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.
H17	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).
H18	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).

These eighteen hypotheses contribute directly to addressing the third research question (RQ3), as detailed in Chapter Four (Sections 4.8 and 4.9), with an in-depth discussion of the findings presented in Chapter Five (Subsection 5.3.3).

2.16 Chapter Summary

This chapter provided a review of existing literature which then established the foundation for the development of the conceptual framework and hypotheses. It examined key areas relevant to the research, including the state of technological innovation in UK retail banking, challenges associated with online purchasing of financial products and gaps in existing studies. The review of technology acceptance models provided justified the selection of UTAUT2 while acknowledging its limitations and proposing enhancements through integration with the ELIS model. Similarly, the review of information-seeking models and justification for the choice of ELIS model, highlighted its relevance while also presenting its limitations.

A critical analysis of retail banking consumers' behaviour through the lenses of the UTAUT2 and ELIS models draw attention to the significance of this research for both academia and industry. By integrating the two models, the study not only enhances their relevance in the digital era but also opens new avenues for cross-disciplinary exploration. While the ELIS model has limited consideration of digital information-seeking, and UTAUT2 overlooks the role of information and trust in online transactions, their integration offers a more holistic understanding of consumer decision making. This research is particularly significant in advancing both models, allowing them to evolve in response to changing consumer behaviours and rapid technological advancements which continue to generate an abundance of data and information.

Additionally, this study is a contribution and a call for banks to evolve not only through technological innovation but also by shifting from predominantly practitioner-focused research to incorporating more theoretically grounded and academically rigorous studies. Deloitte (2020), emphasised the need for banks to integrate established theories and methodologies to support innovation, facilitating a deeper understanding of consumers' thoughts, preferences, and experiences. Expanding consumer behaviour research would ensure that studies extend beyond the decisions and strategies of banking policymakers and marketing executives to include the perspectives, decision-making processes and

behavioural patterns of consumers, who represent the other critical side of the financial marketplace (Malter *et al.*, 2020).

Furthermore, the effectiveness of innovation in the banking sector is contingent on consumer adoption. The insights generated by this study will be valuable to both financial institutions and consumers, providing guidance on enhancing trust, optimizing digital information provisioning and improving engagement in the purchasing of financial products and services online. The next chapter builds on these insights by detailing the research methodology employed to test the conceptual model and validate the hypotheses developed in this chapter. It also outlines the steps taken to address the overall research questions.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Chapter Overview

This chapter provides a comprehensive overview of the research methodology employed in this study, outlining the philosophical stance, research design, data collection method and the statistical techniques used to ensure the accuracy and validity of the findings. It begins with a discussion on the research philosophy, detailing the three key paradigms, namely, positivism, interpretivism, and pragmatism. These philosophical foundations guided the methodological choices, ultimately leading to the selection of a positivist explanatory approach aligned with the study objectives.

Furthermore, the chapter presents the three types of research design namely, exploratory, descriptive and explanatory research. This is followed by an examination of methodological approaches, differentiating between quantitative, qualitative and mixed methods. A comparison of qualitative versus quantitative research further reinforces the rationale for adopting a quantitative methodology for the current study while highlighting the limitations of this approach and the strategies implemented to mitigate these limitations.

Additionally, the chapter includes a review of related studies and methods employed, followed by the population and sampling strategy used, including sampling technique, inclusion criteria, an overview of instrument design and measurement, and the process of pre-testing, piloting and data collection. Finally, the statistical tools used for data analysis are discussed, along with ethical considerations to ensure compliance with research integrity and ethical standards.

3.2 Research Philosophy

Research, in general terms, refers to the pursuit of knowledge while research methodology is the systematic study of the principles and techniques used to conduct research in a scientific manner (Patel and Patel, 2019). In other words, research methodology is a structured approach to solving research problems by logically following a series of steps (ibid). A successful research process begins by clearly identifying and articulating the research philosophy upon which the research will be anchored. A research philosophy also known as the research paradigm outlines the underlying set of beliefs and assumptions regarding how data about a phenomenon should be gathered, analysed and reported. According to Kuhn (1977), the research philosophy is the set of beliefs that the members of

the research community share. Kuhn (2022) further asserted that every scientific community, within any given paradigm, relies on a set of established beliefs that are integral to its historical development and progression. Henning, Van-Rensburg and Smit (2004) described research paradigm as a framework through which theories are developed, influencing how people perceive the world, determining individual viewpoints, and forming our personal knowledge of how things are linked.

Prior to undertaking data collection, adopting a philosophical perspective guides a researcher with a theoretical understanding of the social environment, which inevitably enriches the research endeavours at the time of data collection (McLachlan and Garcia, 2015). A view which was also shared by Bryman and Bell (2015). The authors state that establishing the most relevant epistemological and ontological assumptions will aid in the clarification of the research design as well as the identification of the most appropriate data collection procedures.

The two major elements that define the philosophical stance of a research study are the ontological and epistemological views adopted by the researcher (Hathcoat, Meixner and Nicholas, 2019; Ikram and Kenayathulla, 2022; Junjie and Yingxin, 2022). Ontology and epistemology are the foundations of social science research and provide answers to questions on how to describe reality and what constitutes acceptable knowledge respectively (Lee, 2012). Similarly, Bell, Harley and Bryman (2022) states that social science research seeks to understand and make philosophical assumptions through the three dimensions of ontology, epistemology and methodology. The research methodology in this case, serves as a guiding factor to the researcher's understanding of the strategy to be adopted based on a given ontological and epistemological assumptions. In other words, the research methodology is influenced by the ontology and epistemology chosen by the researcher. It is therefore imperative that the researcher chooses the epistemological and ontological assumptions carefully such that these fit the research objectives.

Al-Ababneh (2020, p.90) defined Ontology as "the beliefs about the nature of reality." Saunders, Lewis and Thornhill (2019) defined ontology as a philosophical concept that guides inquiry into the existence of entities and how they are classified. According to Bryman (2016) ontology relates to the value a researcher holds about what is real and true and what is believed to be factual. "Ontology and epistemology are to research what 'footings' are to a

house: they form the foundations of the whole edifice.” (Grix, 2004, p.59 as cited in Rehman and Alharthi, 2016). Ontology therefore is what shapes knowledge, what is already known which is the current knowledge, what exists and what is real. Ontology defines the basic assumptions on the nature of reality and answers the question – what is reality and how can reality be described? (Ikram and Kenayathulla, 2022)

Creswell and Clark (2017) defined epistemology as a philosophical term which describes the relationship between the researcher and the subject of inquiry. Al-Ababneh (2020, p.90) defined epistemology as “the theory of knowledge that informs a research.” Epistemology attempts to answer the question - how can we know truth or reality? (Ikram and Kenayathulla, 2022). It also examines what constitutes acceptable knowledge. Therefore, epistemology defines the most appropriate way to investigate the world and its reality, while also determining the relationship between the researcher and the research. Consequently, it provides the philosophical foundation for knowledge acquisition and outlines how knowledge will be gathered for the research (Saunders, Lewis and Thornhill, 2019). Axiology, on the other hand, pertains to the values and ethics that guide research practice. It shapes the moral and ethical dimensions of research by determining what is considered appropriate and acceptable in terms of methods and conduct (Aliyu *et al.*, 2015; Pretorius, 2024).

Over the years, researchers have categorised research paradigms in various ways, leading to concerns and confusion, particularly among young researchers (Easterby-Smith, Thorpe and Lowe, 2002; Saunders, Lewis and Thornhill, 2009; Mkansi and Acheampong, 2012; Junjie and Yingxin, 2022). However, as Mkansi and Acheampong (2012) noted, “their definitions of ontology, epistemology, and axiology share a common theme with a bit of different meaning and emphasis.” For example, the descriptions and classifications of ontological and epistemological stances provided by Saunders, Lewis and Thornhill (2019) differ from those presented by Ritchie *et al.* (2013). While Guba and Lincoln (1994), Saunders, Lewis and Thornhill (2019) classify the four major research philosophies: positivism, realism, interpretivism and pragmatism, through ontological, epistemological and axiological perspectives, Ritchie *et al.* (2013) adopted a different approach. The latter scholars categorised philosophical stances based on ontological perspectives, which include realism; materialism, critical realism, idealism and relativism. Additionally, they classify epistemological perspectives separately, encompassing positivism and interpretivism

(Mkansi and Acheampong, 2012). Figure 3.1 illustrates the “Research Onion” by Saunders, Lewis and Thornhill (2019).

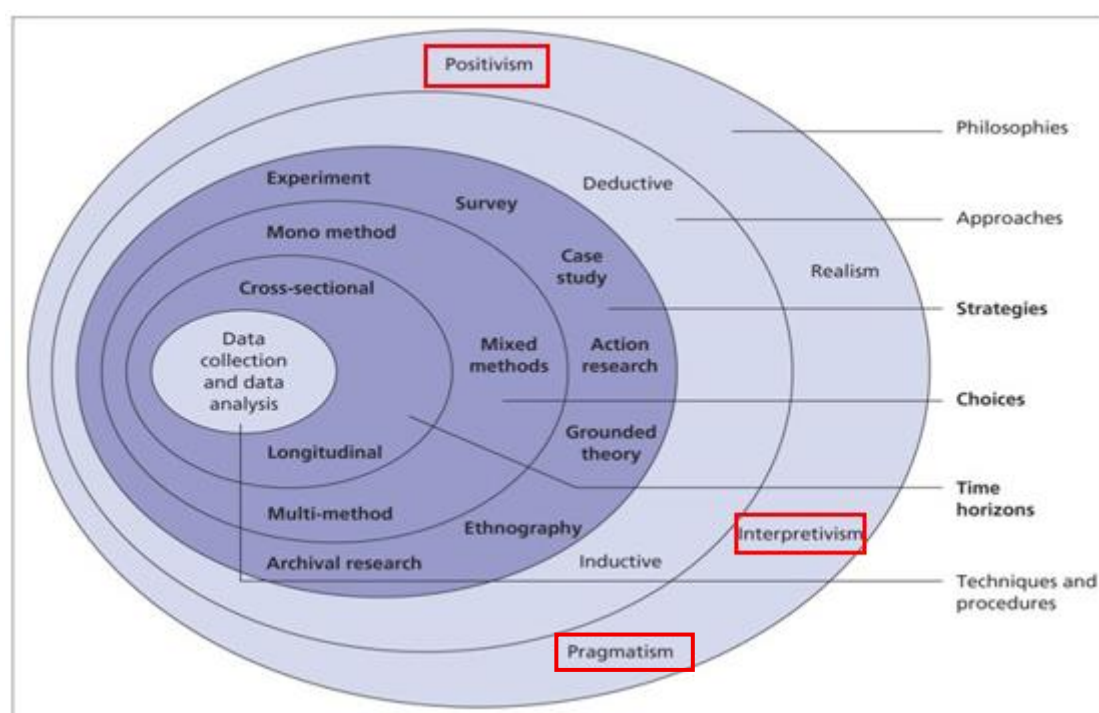


Figure 3.1: The research onion

(Saunders, Lewis and Thornhill, 2019)

Typically, the most commonly used philosophical paradigms for scientific research and analysis are positivism and interpretivism (Adom, Yeboah and Ankrah, 2016; Alharahsheh and Pius, 2020; Ikram and Kenayathulla, 2022; Junjie and Yingxin, 2022). These two dominant theories, commonly known as the "traditional philosophical paradigms" have led to the emergence of various other philosophical paradigms (Adom, Yeboah and Ankrah, 2016). Other differing schools of thought have also included positivism and interpretivism in their descriptions and framework. According to Denscombe (2017) and Myers (2019), the three dominant philosophical paradigms in both social and natural science research are positivism, interpretivism, and critical realism. However, it is clear that logical positivism remains the most popular methodological philosophy in the field of consumer behaviour research (Hunt, 1991).

Therefore, this research reviewed the two most used paradigms, positivism and interpretivism, along with pragmatism, a philosophical stance that combines elements of both. Each paradigm is discussed from ontological and epistemological perspectives as described above, and the most suitable approach was chosen based on these considerations. The

decision regarding the best approach was also guided by the aims and objectives of the research study.

3.2.1 Positivism

Positivism gained prominence in the early nineteenth century through the work of French philosopher Auguste Comte (Richards, 2003; Pathak and Thapaliya, 2022). It asserts that reality exists independently of human perception, adhering to an ontological perspective of realism that views reality as consistent, objective, and external to the human mind. Positivism's epistemological stance, rooted in objectivism, maintains that researchers should remain detached from the phenomena they study, adopting an impartial, observational role. This approach relies on facts and scientific methods to explain underlying relationships (Carson *et al.*, 2001; Saunders, Lewis and Thornhill, 2019).

Positivism emphasises the separation of researchers from participants and uses quantitative methods to examine how society shapes individuals. It assumes that reality is concrete and discoverable through systematic observation and experimentation. The belief is that social phenomena are governed by laws, which can be tested through hypotheses and statistical analysis to yield absolute, certain outcomes (Collis and Hussey, 2013). In this way, positivism seeks to uncover universal truths and knowledge through reliable, scientific tools. Figure 3.2 illustrates the philosophical stance of positivist researchers.

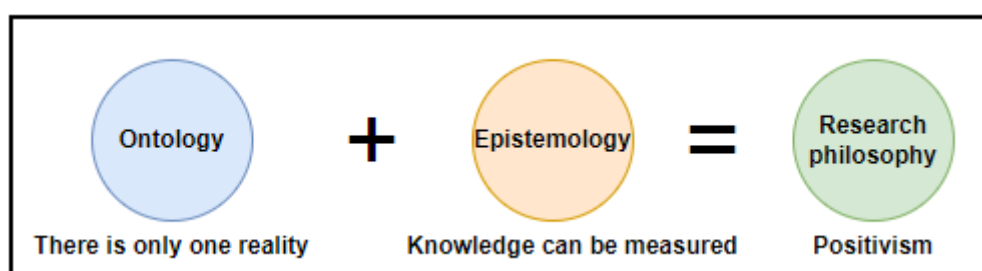


Figure 3.2: The philosophical stance of positivist researchers

3.2.2 Interpretivism

Interpretivist researchers believe that reality and knowledge are constructed by humans. The primary goal of interpretivism is to generate meaning by comprehending the world and human behaviour (Ikram and Kenayathulla, 2022). Some scholars suggest that constructivism stems from the interpretivist philosophical paradigm (Adom, Yeboah and Ankrah, 2016), while others equate interpretivism with constructivism (Sobia Shafaq Shah, Shah and Khaskhelly,

2018). This philosophical doctrine upholds the concept of multiple realities, rejecting the notion of a universal truth. Instead, reality is understood and interpreted from the perspective of the researcher (Ikram and Kenayathulla, 2022; Pathak and Thapaliya, 2022). Therefore, interpretivism can be seen as a critique of, or a contrast to, positivist science (Saunders, Lewis and Thornhill, 2019).

Interpretivist researchers emphasise that knowledge is largely dependent on the meanings humans attach to their actions. They consider reality to be subjective and aim to gain an understanding of events through the interpretations individuals ascribe to them (Myers, 2019). The ontological stance of interpretivism holds that reality is multiple and relative (Guba and Lincoln, 1994). Unlike positivism, which assumes a clear separation between the researcher and reality, interpretivism posits that the researcher is intimately connected to the reality being studied. According to Neuman (2010), an interpretivist scholar, describes subjective meanings, reasons and understands motives and experiences in detail. As a result, interpretivism asserts that societal structures are shaped by individuals and that facts are contingent on the observer's viewpoint. As such, scientific laws are seen as human constructs based on individual perceptions of reality. Figure 3.3 illustrates the philosophical stance of interpretivist researchers.

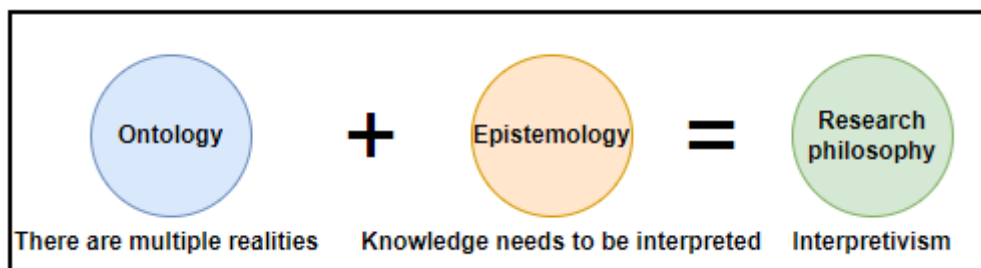


Figure 3.3: The philosophical stance of interpretivist researchers

3.2.3 Pragmatism

Pragmatism, as a research philosophy, integrates elements of both positivism and interpretivism (Cohen, Manion and Morrison, 2017). While positivism and interpretivism hold opposing ontological views, pragmatism embraces the idea that reality can be both singular and multiple. Similarly, while positivism is grounded in objectivism and interpretivism in subjectivism, pragmatism maintains that knowledge can be both measured and interpreted. In pragmatism, mixed-methods research is emphasised, avoiding debates over absolute truth and reality (Yvonne Feilzer, 2010). According to Tashakkori and Teddlie (2021), pragmatism is centred around the principle of what works in addressing the research problem. The

epistemological assumption of pragmatist scholars is that knowledge is acquired through practice and action.

As a result, pragmatism offers flexibility in research methodology by integrating both qualitative and quantitative methods to effectively address research questions. It is most commonly associated with mixed-methods research, where various techniques are employed based on their suitability for answering the research problem. Figure 3.4 illustrates the philosophical position of pragmatist researchers.

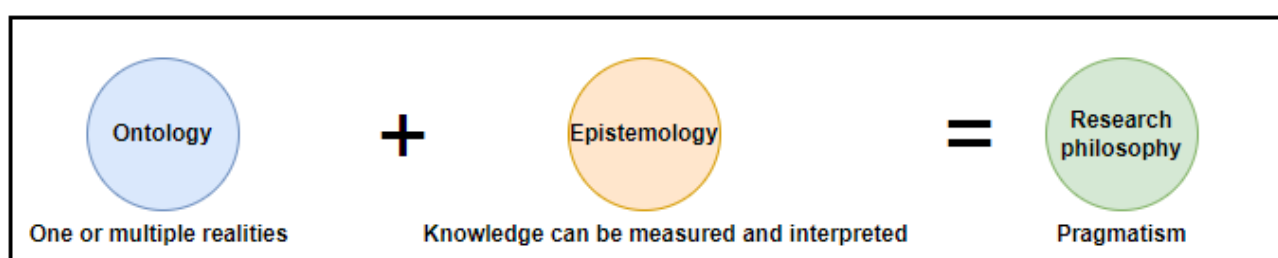


Figure 3.4: The philosophical stance of pragmatist researchers

Table 3.1 provides a comparative overview of the key differences and similarities between positivism, interpretivism and pragmatism. It highlights the fundamental distinctions in their ontological and epistemological assumptions, providing a clearer understanding of how each philosophical stance approaches the nature of reality, knowledge acquisition and the methods of investigation. The comparison further illustrates how pragmatism bridges the gap between positivist objectivism and interpretivist subjectivism, offering a flexible framework for addressing complex research questions that require both qualitative and quantitative insights.

Table 3.1: Comparison of positivism, interpretivism and pragmatism

Research Type	Approach	Ontological Stance	Epistemology	Research Strategy
Positivism	Deductive	Singular realities	Objective	Quantitative
Interpretivism	Inductive	Multiple realities	Subjective	Qualitative
Pragmatism	Deductive/inductive	Singular/multiple realities	Objective or subjective	Quantitative and/or qualitative

The comparison of positivism, interpretivism and pragmatism provides valuable insights into the philosophical foundations that inform research methodology. These philosophical perspectives not only shape how knowledge is understood and investigated but also influence the design of the research itself. The following subsections discuss various

research designs, strategies and methodological approaches, highlighting their relevance to the research process. Based on this discussion, the most appropriate approach for the current study was identified and elaborated upon in the subsequent sections.

3.3 Research Design

According to Churchill and Iacobucci (2006), a research design serves as a structured framework or strategy for gathering and analysing data in a study. In other words, it outlines the plans, procedures, and structure for conducting a specific research study. The research design involves the logical planning of the study, including the purpose, context, duration, methodology and the investigator's role, among other key factors (Creswell and Creswell, 2017).

Bougie and Sekaran (2019) describe research design as both a theoretical and practical framework that guides the research process. However, Bell, Harley and Bryman (2022) differentiate between the theoretical and practical components. They argue that research design refers to the conceptual framework that guides the decisions made during a study and how data is collected and analysed. In contrast, research methods focus on the practical aspects of the research process, such as the techniques used to gather and analyse data, including surveys, interviews, and questionnaires.

Both definitions highlight the importance of research design in guiding the research process and providing a framework for data collection and analysis. Research design serves as a conceptual framework that shapes the study, ensuring that appropriate methods are applied throughout. The three main types of research design are exploratory, descriptive and explanatory, with the latter often referred to as causal design (Churchill and Iacobucci, 2006; Saunders, Lewis and Thornhill, 2019).

3.3.1 Exploratory Research

Exploratory research is used to gain new knowledge and understanding, particularly when investigating a topic or problem with limited prior knowledge (Malhotra, Patil and Kim, 2007). It is often employed in the development of new theories or to gather insights for further study. This type of research is especially useful when instruments or measures are lacking, variables are unknown, or when no established theory guides the investigation (Creswell and Clark, 2017). Exploratory research helps researchers understand ongoing phenomena, generate new insights and pose fresh questions (Robson, 2002). The findings can be used

to refine existing questions and shape future investigations. Methods include observations, focus groups, interviews, surveys and literature reviews. Unlike other research types, exploratory studies do not directly build on previous work, but instead provide baseline data that can inform subsequent descriptive research (Wood and Ross-Kerr, 2010).

3.3.2 Descriptive Research

According to Saunders, Lewis and Thornhill (2019), the primary purpose of descriptive research is to provide a comprehensive account of observed conditions or activities without investigating the underlying relationships that lead or contribute to those observations. In the context of marketing research, Malhotra, Patil and Kim (2007) noted that descriptive research is commonly used to analyse market functions and characteristics. Descriptive research typically follows exploratory research, building upon its findings or generating insights that guide explanatory studies (Sim and Wright, 2000).

A key feature of descriptive research is its focus on understanding the characteristics of a specific group, enabling the generalisation of findings. Robson (2002) also highlighted that descriptive research aims to provide an accurate representation of people, situations or events. Consequently, large sample sizes are often necessary to ensure the study population is representative. Structured surveys are commonly employed for data collection in descriptive research (Creswell and Creswell, 2017).

3.3.3 Explanatory Research

Explanatory research, also known as causal research, is designed to identify cause-and-effect relationships among variables. As the name suggests, it seeks to explain the underlying associations between different factors (Churchill and Iacobucci, 2006). According to Saunders, Lewis and Thornhill (2019), explanatory research examines and clarifies such relationships by testing hypotheses using statistical methods.

This research design typically involves one or more independent variables and examines their correlation with dependent variables. The primary objective of explanatory research is to analyse causal links between variables. Such studies are often employed for causal investigations and may take various forms, including surveys, action research, grounded theory, experiments, desk research and ethnography (Robson, 2002; Saunders, Lewis and Thornhill, 2019). Additionally, explanatory research can build on findings from descriptive research by addressing the "why" behind observed patterns or relationships.

Having explored the different types of research design and their relevance, the next section discusses various research approaches commonly used in academic studies, from which the most suitable approach for the current study was selected.

3.4 Research Approaches

There are three types of reasoning in research, commonly referred to as research approaches. These includes deductive, inductive and abductive reasoning (Woo, O'Boyle and Spector, 2017; Osman *et al.*, 2018; Okoli, 2023). Among these, deductive and inductive reasoning are the most widely applied, with some scholars arguing that the research community has reached a balance in the use of both approaches (Woo, O'Boyle and Spector, 2017; Islam, Khan and Baikady, 2022). While abductive reasoning is considered a hybrid that leverages the strengths of both deductive and inductive approaches, this study will focus solely on deductive and inductive reasoning to provide a justification for the chosen approach.

3.4.1 Deductive Approach

Lancaster (2005), defines deductive reasoning as a systematic approach to rigorously testing verifiable hypotheses in real-world settings. Its primary purpose is to test or confirm hypotheses, making it ideal for theory verification and hypothesis testing, often referred to as the hypothetico-deductive method (Locke, 2007; Okoli, 2023). Deductive reasoning follows a structured sequence of steps and is considered a fundamental element of scientific inquiry (Bougie and Sekaran, 2019).

Positivism is closely linked to the deductive research approach, which begins with identifying relevant theories from existing literature and formulating testable hypotheses (Park, Konge and Artino, 2020). This approach applies established theories to a specific phenomenon, starting with theories and ending with empirical validation. Deductive research, typically aligned with positivism, applies general theoretical principles to specific cases and is commonly associated with quantitative research methodologies, which are confirmatory in nature, as theory is not derived from perception (Collis and Hussey, 2003).

3.4.2 Inductive Approach

In contrast to deductive reasoning, the inductive approach moves from specific observations to broader generalisations and theory development (Bougie and Sekaran, 2019). Researchers use this approach to collect and analyse data, then develop theories based on observed patterns (Saunders, Lewis and Thornhill, 2019).

Inductive reasoning identifies recurring patterns in empirical data, allowing researchers to build general premises from specific observations (Bougie and Sekaran, 2019). This "bottom-up" approach is open-ended and typically associated with qualitative research and an interpretivist philosophical stance. Unlike deductive research, which is hypothesis-driven, inductive research is data-driven, with conclusions and theories emerging organically from the data (Woo, O'Boyle and Spector, 2017). Table 3.2 provides a comparative analysis of the inductive and deductive research approaches.

Table 3.2: Comparison of inductive and deductive research approaches

(Saunders, Lewis and Thornhill, 2019)

Inductive Approach	Deductive Approach
Moves from specific cases to general conclusions	Moves from general principles to specific cases
Develops a conceptual framework by collecting data and identifying patterns and themes	Tests hypotheses or propositions using collected data
Generates and builds theories	Verifies or refutes existing theories
Conclusions emerge from observations	Premises lead to logical conclusions
Infers effects from causes	Derives effects from known causes
Open-ended and exploratory	Structured and conclusive
Bottom-up approach	Top-down approach
Begins with data and ends with theory	Starts with theory and confirms it with data
Primarily associated with qualitative research	Primarily associated with quantitative research
Provides flexibility, allowing adjustments throughout the research process	Imposes restrictions to ensure data validity and reliability

3.5 Methodological Approaches

Philosophically, methodology refers to a process or way of doing research that is based on a particular framework or paradigm (Blaxter, Hughes and Tight, 2010). In a similar vein, Park, Konge and Artino (2020) assert that research paradigms define the processes involved in conducting research. These processes, collectively known as research methodology, establish the theoretical positioning of the study. In essence, methodology serves as the philosophical foundation that guides how knowledge is acquired throughout the research process. In other words, research methodology dictates the approach to conducting a study, outlining the strategies employed to obtain the necessary knowledge. Al-Ababneh (2020, p.90) defines methodology as the process through which knowledge is generated during a

research endeavour. The philosophical stance adopted by a researcher significantly influences and determines the research methodology to be employed (Crotty, 1998).

Research methodologies generally align with qualitative, quantitative, or mixed methods. According to Bhattacharjee (2012, p.35), “qualitative and quantitative methods refer to the type of data collected and analysed”. A mixed-methods approach combines both techniques, offering a comprehensive perspective (Saunders, Lewis and Thornhill, 2009). The choice of methodology depends on the nature and objectives of the research, as well as, to some extent, on the preferences of the researcher. The following subsections provide a detailed discussion of each methodological approach.

3.5.1 Quantitative Methods

According to Oates, Griffiths and McLean (2022), quantitative data refers to numerical data or numerical evidence. Similarly, Bryman (2016) noted that data collection and analysis in quantitative research are centred on quantification. Grinnell and Unrau (2010) described quantitative approach as a scientific methodology rooted in positivism. Quantitative data is primarily obtained through surveys and experiments, with the underlying design based on an objective view of reality aligned with the positivist paradigm. Positivists assert that society shapes individuals, and quantitative methods are employed to measure and analyse these influences systematically.

The primary focus of quantitative research is hypothesis testing and theory verification. In the same vein, Creswell and Clark (2017) highlighted that researchers employing a quantitative approach make explicit assumptions regarding hypothesis evaluation through deductive reasoning, ensuring bias is avoided, and the study results can be replicated and generalised across different contexts. While surveys are the most commonly used method for quantitative data collection, structured interviews and participant observations may also be utilised (Easterby-Smith, Thorpe and Jackson, 2012). Quantitative research relies on statistical and mathematical techniques to uncover facts and utilises statistical tools for data analysis and reporting.

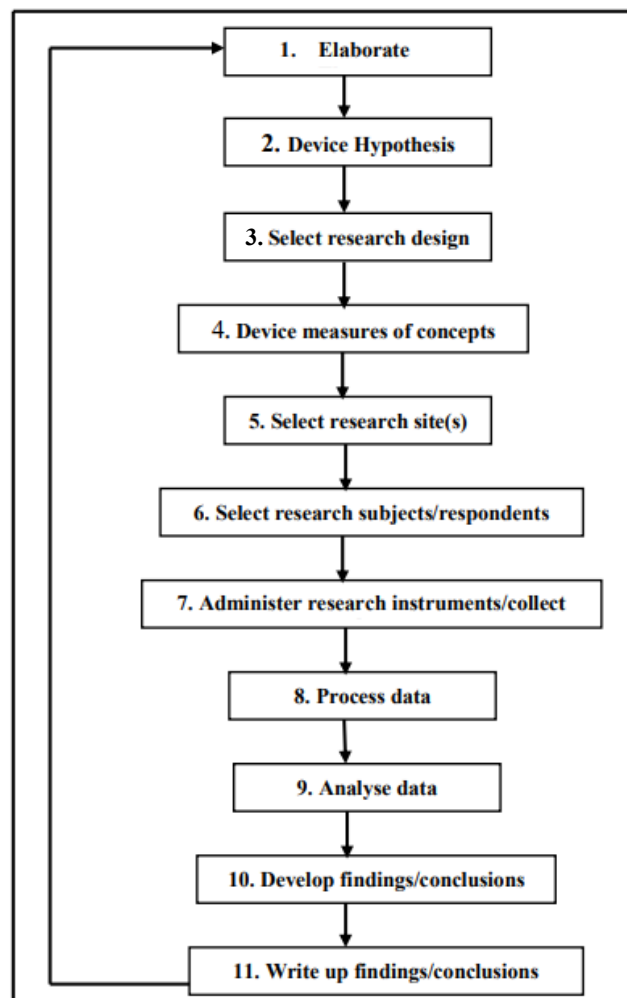


Figure 3.5: Depiction of the quantitative research process

Bryman and Bell (2015)

3.5.2 Qualitative Methods

Qualitative research is an empirical approach that collects data in the form of words, with a strong focus on theory formulation (Bryman, 2016). Unlike quantitative research, which primarily relies on numerical data, qualitative research encompasses all non-numeric data, including sounds, images, and text. The primary objective of qualitative research is to develop a deeper understanding of phenomena rather than representing them numerically. Additionally, while quantitative research is centred on hypothesis and theory testing, qualitative research uses data to formulate hypotheses and develop theories.

According to Flick (2014), analysing texts and images instead of numbers allows researchers to uncover the subjective meaning behind a given topic. This methodology is inherently subjective and aligns with the interpretivist philosophy, which posits that multiple realities

exist and that knowledge must be interpreted within its context. Consequently, qualitative researchers seek to understand or interpret phenomena based on the meaning individuals attribute to them. Qualitative research commonly employs data collection methods such as interviews, observations, case studies, and focus groups. The data collected in qualitative research are not analysed statistically.

3.5.3 Mixed Methods

A mixed method research, therefore, integrates elements of both qualitative and quantitative designs in a single study (Chih-Pei and Chang, 2017; Creswell and Creswell, 2017; Bell, Harley and Bryman, 2022). In other words, a mixed-method approach combines both qualitative and quantitative methods to leverage the strengths of each. No single research method is inherently superior to another. Each method offers its own set of advantages. The emphasis is on selecting the most suitable approach based on the objectives and specific study context (Creswell and Clark, 2017).

Bhattacharjee (2012) highlights that mixed-method designs often provide richer insights by capturing both numerical data and contextual understanding. This approach typically employs diverse data collection instruments, including both open-ended and closed-ended questions, and uses a combination of statistical and text analysis techniques for data interpretation. The flexibility and depth offered by mixed-method research make it particularly effective in addressing complex research questions.

3.5.4 Analysis of Qualitative and Quantitative Methodologies

Qualitative and quantitative research methodologies have distinct differences. While both play a crucial role in advancing research and achieving desired outcomes, they are equally significant to the overall research process. Table 3.3 presents a comparative overview of these methodologies, highlighting their main differences.

Table 3.3: Qualitative versus quantitative methodologies

(Firestone, 1987; Creswell and Clark, 2017)

Measure	Qualitative	Quantitative
Focus	Hypotheses and theory formulation	Hypotheses and theory testing
Philosophy	Phenomenology	Positivism
Method	Emerging methods	Fixed methods
Goal	Gathering participants' meanings	Testing hypotheses and validating theories

Design	Flexible and evolving	Structured and predetermined
Sample	Small, purposeful	Large, random, representative
Data Collection	Interviews, observations, documents, and artefacts	Questionnaires, scales, tests, inventories
Analysis	Inductive (by the researcher)	Deductive (by statistical methods)
Findings	Comprehensive and detailed	Precise and numerical
Researcher	Immersed in the study: personal value may influence	Detached: focuses on reliability and validity
Data Collection Format	Open-ended questions	Closed questions

3.6 The Research Philosophical Stance

This section establishes the philosophical foundation of the study, examining it from both ontological and epistemological perspectives. Additionally, it presents the rationale behind the selection of the research paradigm and justifies its appropriateness for the study.

3.6.1 The Choice of Positivist Explanatory Approach

The aim of this research is to enhance the experiences of UK retail banking customers by understanding the factors influencing their acceptance of online purchasing. It also seeks to examine their pre-purchase information-seeking behaviour, as well as the drivers and barriers to online purchasing. Guided by this research aim and the underlying objectives outlined in Section 1.5 of this thesis, the study employs a research strategy that ensures the researcher is independent and separated from the study population. This approach is adopted to prevent the researcher from influencing the data and ensuring an objective assessment of the influence of the eight independent variables on the intention to adopt online purchasing of consumer banking products.

The research follows a positivist, deductive epistemological stance, emphasising objective analysis free from subjective bias (Saunders, Lewis and Thornhill, 2009; Al-Ababneh, 2020). Aligned with this philosophical framework, it follows an ontological position rooted in realism, which asserts the existence of a singular, unchanging reality. Realism maintains that truth is absolute and independent of individual perceptions, enabling scientific inquiry through systematic observation and established research methods. A fundamental aspect of positivism is hypothesis testing, as statistical analysis produces definitive and reliable

outcomes (Collis and Hussey, 2013). Accordingly, this study formulates and tests a set of hypotheses, reinforcing the positivist perspective that objective observations, rather than subjective interpretations, are essential for understanding the world.

This study employs a non-experimental explanatory research design, which seeks to identify and analyse the underlying causal relationships between variables. According to Saunders, Lewis and Thornhill (2019), explanatory research aims to uncover these relationships through statistical hypothesis testing. Non-experimental explanatory research is inherently quantitative, relying on statistical methods to validate hypotheses. The current study is grounded in an established theoretical framework, from which a set of hypotheses has been developed. This methodological approach is well-suited to a positivist, deductive paradigm, making it the most appropriate for this investigation (Blumberg, Cooper and Schindler, 2014).

Given the study objectives, a positivist, deductive, non-experimental explanatory approach remains the most suitable for addressing the outlined research questions. This philosophical choice enables a comprehensive examination of how each independent variable within the conceptual model influences the dependent variable, namely, consumers' intention to purchase banking products online. Additionally, the use of statistical analysis to test hypotheses, identify correlations between model variables and establish cause-and-effect relationships are key characteristics of explanatory research. Previous related studies have adopted the same philosophical approach (Li, Chung and Fiore, 2017; Panchal, 2024), further reinforcing the appropriateness of this methodological framework.

Given the adoption of a positivist paradigm and a deductive research approach, the most suitable research methodology for this study is a quantitative approach. This section provides a rationale for this choice.

3.6.2 The Choice of Quantitative Approach

A primarily quantitative research design has been selected, complemented by qualitative data obtained through open-ended survey questions. The quantitative approach, integral to the positivist paradigm, facilitates the identification of relationships between variables and provides general insights into a given phenomenon. Employing a structured methodology minimises errors, enhances accuracy and improves the reliability and validity of findings.

Additionally, this standardized approach ensures the research can be replicated across different contexts (Saunders, Lewis and Thornhill, 2009).

The study was expected to generate a large volume of data, given that the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) incorporates more variables than previous models used to examine technology adoption. Additionally, the incorporation of the ELIS model by Savolainen (1995), and the introduction of a trust construct, further introduces more variables to the base UTAUT2 model. Previous studies on technology adoption within UK retail banking domain targeted participants across a specific age range. By contrast, this study employs a broader sampling strategy, encompassing adults across multiple age groups and geographic locations nationwide. This extensive data collection enhances robustness and the potential for generalisation of the study findings.

According to Israel (2014), quantitative research seeks to explain real-world phenomena systematically, while Rowley (2014) highlights that quantitative research has the capacity to facilitate generalisation by allowing data collection from large, diverse populations. This methodological choice aligns with prior research by Venkatesh *et al.* (2003) and Venkatesh, Thong and Xu (2012). The latter employed standardized measurement items within the UTAUT2 model. Extending this format to additional variables ensures consistency, simplifies data collection and improves usability for respondents. Additionally, survey-based data collection is recognised for its efficiency, cost-effectiveness and speed (Zikmund *et al.*, 2010).

A quantitative approach also enables an objective assessment of relationships among variables in the research model. It is particularly well suited for identifying patterns, measuring differences between groups and testing hypotheses. Empirical studies demonstrate that this approach enhances the reliability of findings by ensuring objectivity and eliminating potential biases (Israel, 2014). Amos (2016) argues that a qualitative approach alone may not provide the same depth of insight, as quantitative methods are more effective in uncovering significant trends and patterns. Furthermore, Blommaert (2013) emphasises that quantitative research minimises the risk of erroneous generalisations by maintaining a broader perspective.

Several practical considerations further justify the choice of methodology. The need for a substantial participant pool makes an online survey the most feasible and secure option.

Connaway and Powell (2010) assert that an effective research methodology should facilitate seamless data collection and analysis. Likewise, well-designed questionnaires enhance response rates, ensure anonymity and encourage candid responses (Williams, 2003; Marshall, 2005). Zikmund *et al.* (2010) also reinforces the efficiency, accuracy, cost-effectiveness and speed associated with collecting primary data through a survey strategy.

3.6.3 Limitations of a Quantitative Approach

Despite the many advantages of adopting a quantitative study for the current research context, this methodology presents certain limitations. It is often criticised for being narrow in comparison to qualitative research, as it restricts the extent to which individual responses can be explored (Savela, 2018). Some scholars argue that quantitative research overlooks contextual factors crucial for interpreting results accurately. Ary *et al.* (2013, as cited in Rahman, 2020, p.107) contend that quantitative research imposes rigid structures that may fail to capture participants' subjective experiences. Another key factor is that quantitative studies require large sample sizes to improve statistical power and prediction accuracy, necessitating significant resources for data collection and analysis, thereby increasing costs.

Nonetheless, quantitative research remains widely adopted across disciplines. Many researchers argue that, in certain contexts, its advantages outweigh its drawbacks (Jack and Clarke, 1998; Connaway and Powell, 2010). A key strength of this approach is its ability to generate numerical data that is resistant to misinterpretation. When conducted rigorously, quantitative research is objective, unbiased and reproducible. Amos (2016) further suggests that by refining research instruments and expanding the scope of inquiry, quantitative research can incorporate certain benefits traditionally associated with qualitative methodologies.

3.6.4 Addressing Methodological Limitations

In addressing the potential weaknesses associated with a purely quantitative approach, as discussed above, this study employs three key strategies:

Incorporating Domain Knowledge

Before designing the survey questionnaire, the researcher, who also works within the domain of banking, conducted informal discussions with colleagues who are also retail banking

consumers. These conversations provided insights that informed the development and refinements of survey items and hypotheses formulation.

Integrating Qualitative Data

To capture consumer perceptions, experiences and expectations more comprehensively, the study included three open-ended survey questions. These qualitative responses supplement the structured quantitative data, providing deeper and broader insights that may not have emerged from numerical analysis alone. Research suggests that leveraging mixed techniques helps address methodological shortcomings (Bhattacharjee, 2012). Although qualitative case studies often rely on interviews, quantitative data collection remains indispensable for testing hypotheses and identifying trends (Ibid).

Enhancing Insights Without Interviews

While a mixed-methods approach, combining quantitative findings with interviews, could have provided deeper insights into customer behaviour within UK retail banking, it was constrained by time, resources and the researcher's experience. Additionally, maintaining standardization and consistency is crucial in research, which is why many studies on technology acceptance models predominantly rely on quantitative methods. The current study employed both standard and advanced statistical techniques, including Multi-Group Analysis (MGA), an extension of PLS-SEM. MGA was used to explore the moderation effects of demographic variables across different subgroups, thereby complementing the use of PLS-SEM alone.

Given these reasons, a mono-method quantitative approach was deemed appropriate. This allowed for a focused and in-depth investigation. Table 3.4 provides an overview of prior studies and their methodological choices, highlighting the widespread use of quantitative designs in related research contexts.

3.7 Related Studies and Methods Used

Few studies have utilised UTAUT2 integration in examining technology adoption, and even fewer have adopted UTAUT2 integration within the context of consumer banking research. Additionally, to the best of the researcher's knowledge, no prior or ongoing studies have explored online purchase adoption within the UK consumer banking sector by combining the UTAUT2 model with the ELIS model in their investigation. While there are numerous studies on technology adoption, the application of UTAUT and UTAUT2 remains prevalent, while

UTAUT2 integration is still relatively scarce in literature. Section 2.14 of the previous chapter outlined the differences among studies applying, extending or integrating UTAUT2. Table 3.4 further contextualizes this by presenting a summary of relevant studies and their methodological approaches, while Figure 3.6 depicts the conceptual mapping of the research questions to the theoretical models that underpin this study.

Table 3.4: Summary of related studies on UTAUT / UTAUT2 and Methods

No	Title / Authors	Methodology	Country	Study Type	Analysis Tool	Findings	Framework Adopted
1	Security factors on the intention to use mobile banking applications in the UK older generation (55+). A mixed-method study using modified UTAUT and MTAM – with perceived cyber security, risk, and trust <i>(Hanif and Lallie, 2021)</i>	Survey of 191 Adults (55+)	The UK	Mixed-Method	PLS-SEM	The study concluded that there was a low uptake of digital services among the elderly and identified perceived cyber security trust as one of the key factors affecting intention to use.	UTAUT Integration (UTAUT, MTAM)
2	The Adoption, Use and Diffusion of Smartphones among Adults over Fifty in the UK <i>(Pheeraphuttharangkoon, 2015)</i>	Survey of 984 Adults (50+)	The UK	Quantitative	PLS-SEM	The study found a digital divide in adoption of smartphones between older and younger generations, perceived enjoyment was identified as strong influencing factor.	UTAUT Integration (UTAUT, DoI, TAM3)
3	Acceptance of mobile technology by older adults: a preliminary study <i>(Kim et al., 2016)</i>	Interview with 16 Adults (60+)	The US	Grounded Theory	Thematic Analysis	Findings from the study noted that participants underestimate the benefits of new technologies while also overestimating the effort required to learn and use them, and therefore suggested designing	UTAUT Integration (UTAUT, TAM, STAM)

						technologies that were more familiar to older adults to encourage adoption.	
4	Understanding factors influencing the adoption of mHealth by the elderly: An extension of the UTAUT model <i>(Hoque and Sorwar, 2017)</i>	Survey of 300 Adults (60+)	Bangladesh	Quantitative	PLS-SEM	Findings from the study suggests that performance expectancy, social influence, effort expectancy, technology anxiety and resistance to change were major factors influencing elderly adoption of mobile health services.	UTAUT Extension
5	Modelling consumers' adoption intentions of remote mobile payments in the United Kingdom: extending UTAUT with innovativeness, risk, and trust <i>(Slade et al., 2015)</i>	Survey of 268 Adults	The UK	Quantitative	PLS-SEM	The findings highlight the importance of tailoring technology adoption models to the consumer situation in order to understand individual differences and challenges to adoption.	UTAUT Extension
6	Customer acceptance of mobile marketing in Jordan: An extended UTAUT2 model with trust and risk factors <i>(Eneizan et al., 2019)</i>	Survey of 321 Jordanian Consumers	Jordan	Quantitative	PLS-SEM	This study findings reconfirmed previous studies on the strong influence of perceived ease of use to consumers' adoption of mobile marketing.	UTAUT2 Extension

7	South African millennials' acceptance and use of retail mobile banking apps: An integrated perspective (<i>Thusi and Maduku, 2020</i>)	Survey of 352 millennial retail banking customers	South Africa	Quantitative	PLS-SEM	According to the findings, millennials will continue to use apps if they have the requisite skills, infrastructure, and institutional backing.	UTAUT2 Extension
8	Extending UTAUT2 to explore digital wallet adoption in Indonesia (<i>Widodo, Irawan and Sukmono, 2019</i>)	Survey of 345 e-Wallet Consumers	Indonesia	Quantitative	PLS-SEM	The findings confirm that consumer trust, performance expectancy, and facilitating conditions are strong predictors of consumer intention to adopt e-wallet in Indonesia.	UTAUT2 Extension
9	An empirical study of donors' acceptance and behavioural intention in online crowdfunding platforms: extending UTAUT2 with trust (<i>Syahir Al-Edrus, 2021</i>)	Survey of 200 Malaysian crowdfunding platforms users	Malaysia	Quantitative	PLS-SEM	The findings suggest that behavioural intention is directly influenced by Performance Expectancy, Social Influence, Habit, and Trust.	UTAUT2 Extension
10	Adoption of electronic banking services in India: an extension of UTAUT2 model (<i>Chauhan, Yadav and Choudhary, 2022</i>)	Survey of 721 consumers	India	Quantitative	CB-SEM	Findings from the study indicate that performance expectancy and effort expectancy are key determinants influencing the adoption of e-banking services.	UTAUT2 Extension

The research questions are closely aligned with the research objectives, with each element systematically designed to explore a distinct aspect of the overarching research aim. Figure 3.6 illustrates the conceptual mapping of the research questions and objectives onto the theoretical models that underpin this study, as informed by the review of existing literature. This mapping is revisited in Chapter 5, Section 5.2 to facilitate deeper analysis and discussion of the findings of the study in relation to the theoretical framework.

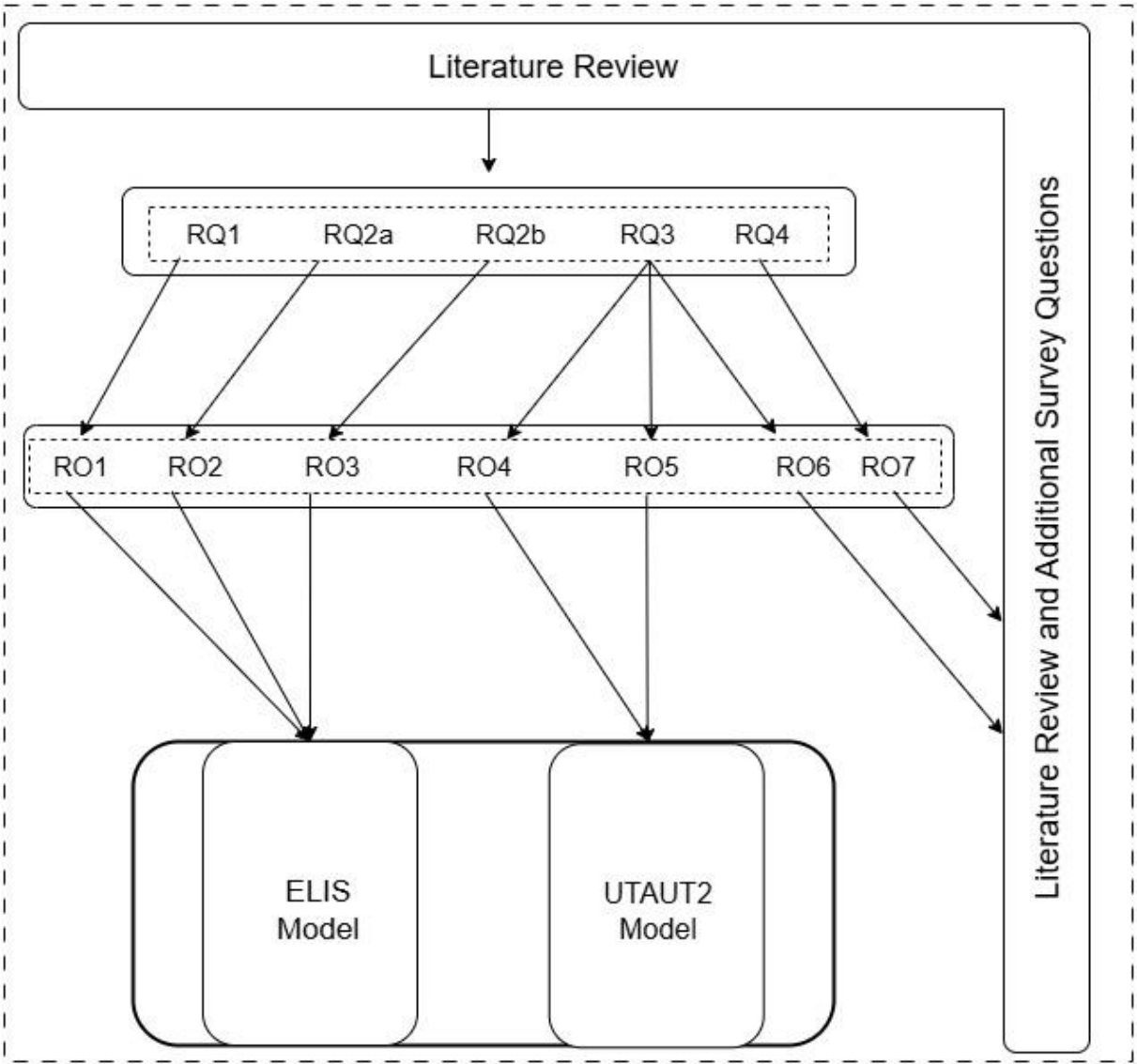


Figure 3.6: Mapping research questions and objectives to theoretical frameworks

3.8 Theory and Instrument Alignment

In alignment with this philosophical position and guided by the study objectives, a structured questionnaire was developed as the primary data collection instrument.

Consistent with positivist assumptions, the questionnaire was designed to gather quantitative data that could be objectively measured and statistically analysed. The instrument primarily consisted of closed-ended questions. This format facilitated standardisation, replicability, and comparability of responses, aligning with the positivist emphasis on observable and measurable phenomena.

The online distribution of the questionnaire further reinforced the positivist stance by maintaining a clear separation between the researcher and the participants, thereby reducing potential bias and ensuring the objectivity of the data collection process. The design and delivery of the survey were also informed by ethical principles grounded in axiology, which considers the values and ethics that guide research conduct. Ethical safeguards were integrated into the research design, including the provision of an information sheet, informed consent, anonymity assurances, and the option for participants to withdraw at any stage, thereby respecting participants' autonomy and ensuring transparency. The statistical analysis techniques utilised are particularly well-suited to positivist research, as they enable hypothesis testing and the evaluation of complex relationships among latent constructs within the proposed conceptual framework.

While the research was fundamentally quantitative in nature, a small number of open-ended questions were included to gather additional context and enrich understanding of the quantitative data. These responses served to supplement the quantitative findings by providing brief explanatory insights. Their inclusion did not deviate from the core positivist approach. The methodology employed reflects a commitment to objectivity, measurement, and generalisability, which are the foundational principles of positivist inquiry.

3.9 Population and Sampling Strategy

The target population for this study consists of customers of UK-based retail banks, who are defined as consumers of financial products and services offered by these institutions. However, researching the entire population is impractical due to constraints related to time, effort, and budget (Shukla, 2008). Consequently, a sampling strategy is employed to ensure a representative selection of participants across key demographic factors. The study therefore adopts the sampling design utilised by Shukla (2008) and Zikmund *et al.* (2010) to enhance the validity and

generalisability of the research findings. This is illustrated in Figure 3.7 and discussed in the next section.

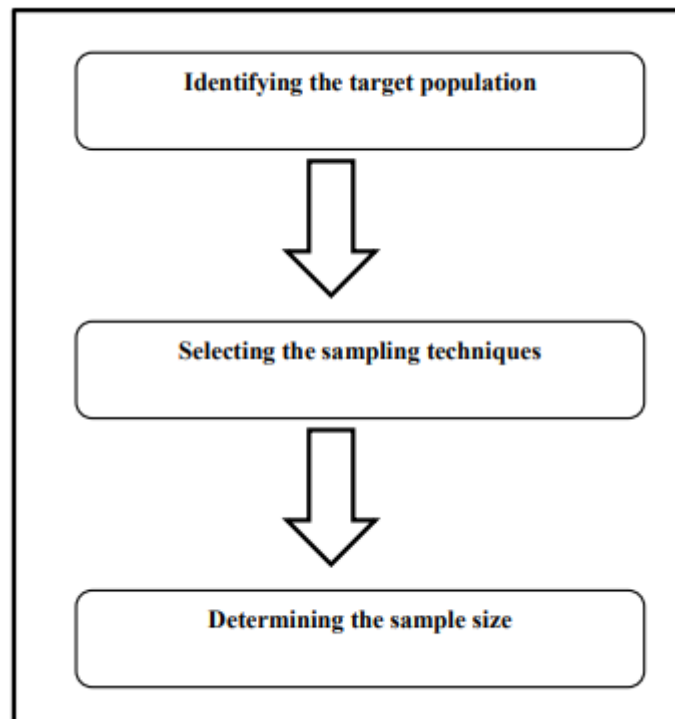


Figure 3.7: Sampling procedure
Shukla (2008) and Zikmund *et al.* (2010)

3.9.1 Sampling Technique

Fink (2003) defines sampling as the selection of a subset from the overall population, while Zikmund *et al.* (2010) describe it as the process of selecting a representative portion of the population. This consumer-focused research examines financial products commonly held by individuals and households, resulting in a broad and diverse population of interest. Specifically, the target population comprises consumers of UK retail banks who primarily reside in the UK and currently hold one or more banking products within the scope of this study, as detailed in section 1.7.2. These products include current accounts, savings accounts, personal loans, mortgages, and credit cards. Eligible participants are individuals who have acquired these banking products through various channels, including online platforms, physical bank branches and customer service centres.

Given the extensive size of this population and the absence of a specific sampling frame, it is impractical to include every eligible consumer within the study. Therefore,

a convenience sampling approach was adopted. Rahi (2017) defines convenience sampling as the process of gathering data from a research population that is easily accessible to the researcher. It is a type of non-probability sampling, which differs from probability sampling techniques that offer each member of the population an equal chance of participation, thereby enhancing representativeness and generalisability.

Despite its limitations, convenience sampling was deemed appropriate for this study due to the scale of the target population, the lack of a defined sampling frame, and practical constraints related to time and resources. Additionally, not all UK retail bank customers met the inclusion criteria set by the study, making non-probability sampling the most pragmatic choice. While convenience sampling is a widely used and cost-effective method (Farrokhi and Mahmoudi-Hamidabad, 2012), it has drawbacks, particularly its lack of randomness therefore not optimal for rigorous hypothesis testing. To reduce the impact of these limitations, specific strategies were implemented, as discussed in the following section.

Convenience sampling offers several advantages, including speed, ease of access to participants, cost reduction, and the potential to obtain a large sample, thereby improving the reliability of findings (Speak *et al.*, 2018; Golzar, Noor and Tajik, 2022). However, it is prone to selection bias due to its dependence on participant availability and accessibility (Saunders, Lewis and Thornhill, 2012; Harding, 2018). To mitigate these potential limitations, additional efforts, resources and time was invested to ensure a diverse and representative sample. Several strategies have been implemented to address the inherent limitations and biases associated with non-probability convenience sampling. These are detailed below.

- Conducting nationwide data collection to ensure representation from Scotland, England, Wales and Northern Ireland.
- Extending the data collection period to account for seasonal variations, such as summer holidays, to maximize participation from families.
- Reviewing collected data and analysing participant locations to identify underrepresented regions, thereby allowing targeted efforts for a more geographically balanced sample.

- Engaging a third-party survey recruitment platform (prolific.com) to enhance participant recruitment, recognizing that larger samples contribute to improved generalisability.
- Conducting a follow-up longitudinal study with Prolific to screen participants, thereby facilitating increased participation from rural areas and achieving a more balanced rural-versus-urban representation.
- Implementing a second phase of recruitment to ensure balanced representation by gender and ethnicity.

3.9.2 Inclusion Criteria

The subset of the target population from which data was collected consisted of customers who, at the time of the research, were predominantly resident in the UK, held at least one consumer banking product within the scope of the study, including current accounts, savings accounts, credit cards, mortgages and personal loans. Furthermore, participants were required to be at least 18 years of age and to have possessed the physical and mental capacity to independently make financial decisions.

Based on the above inclusion criteria, the research framed the convenience sampling technique, as guided by Golzar, Noor and Tajik (2022) with participants required to meet the following conditions: (a) being a resident of the UK, (b) having at least one consumer banking product that was in scope at the time of data collection, (c) being at least 18 years of age, (d) demonstrating a willingness to participate in the study, and (e) being physically and mentally capable of making financial decisions. The next section addresses the determination of the appropriate sample size for the research.

3.9.3 Sample Size Determination

According to Saunders, Lewis and Thornhill (2003), the required minimum sample size for a study is dependent on various factors, such as the nature of the research, the number of variables involved, and the chosen data analysis approach. Similarly, Lakens (2022), states that determining and justifying an appropriate sample size in research is a critical decision, influenced by factors such as resource constraints, sample sizes used in similar studies, the proposed analytical technique, and the research objectives.

There has been considerable discussion in existing literature regarding how to determine the appropriate sample size for a research study. While larger sample sizes are often recommended, Delice (2010) conducted a comprehensive review of sample size determination. The review noted that smaller samples, when carefully designed and analysed, can yield valuable and reliable results, especially when practical considerations are taken into account. The key is to ensure that both the research design and statistical methods are appropriate for the chosen sample size, while also considering the sample's limitations when interpreting the results. In other words, the sample size should be well-justified and aligned with the research objectives, ensuring that the findings are both statistically reliable and practically achievable.

Nuriska, Asakdiyah and Setyawan (2018) suggested that a commonly used guideline in survey research is that the minimum sample size should be no less than five times the number of measurement items to be analysed. Barclay, Higgins and Thompson (1995a) proposed that the recommended sample size for PLS-SEM could be computed by taking either ten times the maximum number of formative indicators linked to a construct or ten times the number of structural paths leading to a construct within the model, whichever of these two values is greater.

In this study, the survey was designed with two branches to support two categories of respondents: online and offline customers, those who have purchased online and those who have purchased offline respectively. This included 32 measurement items for online customers and 17 measurement items for offline customers. Additionally, each survey branch contained two screening questions, eight demographic questions, and ten statements aimed at better understanding respondents' general online behaviours. However, these additional items were not linked to the model constructs and were not necessary for answering the key research questions.

Using the rule of thumb outlined above and the upper limit of 32 measurement items, the minimum sample size for this research is suggested to be either $n=160$ (Nuriska, Asakdiyah and Setyawan, 2018) or $n=320$ (Barclay, Higgins and Thompson, 1995b). The latter scholars based their minimum sample size determination on the use of PLS-SEM, the statistical analysis tool proposed for this study. Similarly, Barrett (2007) recommended that the minimum sample size for Structural Equation Modeling (SEM) should exceed 200 participants.

In light of these recommendations and the trade-off between sample size and the feasibility of data collection and analysis, the researcher initially estimated a sample size of $n=500$. However, the current sample size stands at $n=377$, which is believed to be sufficient based on the factors outlined above and a review of related studies. A sample size of 377 is twice the required minimum sample size suggested by Nuriska, Asakdiyah and Setyawan (2018). Sekhon *et al.* (2015), examined customer perspectives on key factors influencing service excellence in UK retail banks, drawing conclusions from a survey of $n=260$ retail banking customers, with data collected nationwide. A more recent study by Ananda, Kumar and Singh (2023) on customer satisfaction and engagement within the Indian banking sector derived its findings from a survey of $n=250$ respondents. Similarly, Dada (2021) explored the impact of electronic word-of-mouth on UK retail banking customers' intention to share wallet, using a mixed-method approach that included interviews with 12 participants and a survey of $n=280$ respondents. Table 3.4 above provides an overview of related studies, methodologies and respective sample sizes for each.

The chosen sampling approach also incorporated measures to mitigate the drawbacks of non-probability convenience sampling. To address these limitations, the researcher diversified data collection sources, collaborated with an external recruitment partner, identified data gaps, and initiated a longitudinal study to address disparities between rural and urban respondents while extending the data collection timeframe. Given the constraints of time and budget, the current sample size of $n=377$ is deemed adequate for this study, aligning with the existing body of literature that was thoroughly reviewed for credibility and consistency with prior research.

3.10 Data Collection Technique

Research data collection involves gathering data that will be analysed to address research questions, test hypotheses, and ultimately fulfil the research objectives (Karunarathna *et al.*, 2024). It is a systematic process that involves gathering information relevant to a study. Bell, Harley and Bryman (2022) emphasise the importance of aligning the data collection process with the research objectives to ensure that the data effectively addresses the research questions. Data collection methods are typically classified into two categories: primary and secondary. Primary data is obtained directly from original sources through methods such as surveys,

interviews, observations, and experiments (Saunders, Lewis and Thornhill, 2019; Taherdoost, 2021). In contrast, secondary data involves using pre-existing information collected by others for different purposes (Zikmund *et al.*, 2010), such as government reports, academic papers or historical records (Dalati and Marx Gómez, 2018). Each method has its advantages and limitations, with the choice of method depending on the research objectives, available resources and the specific data required.

This study, which investigates factors influencing the adoption of online purchasing of retail banking products within the UK, requires extensive geographical coverage to accurately represent the broader population. One major advantage of electronic surveys is their ability to overcome geographical limitations, allowing for the efficient collection of large datasets. Online surveys are particularly suitable due to their cost-effectiveness, convenience, anonymity, and ability to provide real-time data analysis (Beck, 2024). Additionally, the use of structured survey questionnaires aligns with the study's quantitative approach.

Given the focus of the current study on consumer perceptions, challenges, experiences, and influential factors related to online purchasing, primary data obtained through surveys appears ideal. Questionnaires are commonly used in quantitative research to measure variables such as behaviours, preferences, and attitudes across different demographic groups (Rowley, 2014). Furthermore, since the target audience is expected to have at least a basic level of computer and internet literacy, an online survey was deemed the most appropriate tool. Additionally, the research formulated a set of hypotheses for statistical testing. Questionnaires are specifically designed to collect statistical data and can measure a broad range of variables, including behaviours, preferences, and factual information (Kabir, 2016). Figure 3.8 illustrates primary and secondary data collection methods as outlined by (Taherdoost, 2021).



Figure 3.8: Data collection methods
(Taherdoost, 2021)

3.11 Instrument Design and Development

The survey instrument for this study was created using Qualtrics (<https://www.qualtrics.com/>). The full questionnaire can be found in Appendix C. It incorporates a range of commonly used survey question types, including closed-ended questions, open-ended questions, ranking questions, dichotomous questions and Likert scale questions. These question types are frequently found in survey instruments (Ditsa, 2004). All questions were coded for ease of analysis and reporting.

The first section of the questionnaire focused on participants' demographics and included supplementary questions about their online behaviour and knowledge of financial products. Depending on whether participants reported purchasing products

online or offline, the survey branched accordingly. While all measurement items remained consistent for both groups, a few statements were adapted to suit each group. Online buyers answered more questions than offline buyers, with 15 additional questions for online buyers. This was necessary, as some constructs of the model were more relevant to individuals who have used the technology.

All questions were designed to capture the perspectives of both consumer groups. These include questions to explore consumers' information needs, preferred information sources and the factors influencing adoption of online purchasing of consumer banking products. Three open-ended questions were added to introduce flexibility and cover topics that may not have been fully addressed by closed-ended questions. This approach enabled the collection of qualitative data, which complements the quantitative data from the closed ended questions and offers deeper insights into respondents' experiences and expectations.

Measurement items for all variables from the UTAUT2 model were adapted from Venkatesh, Thong and Xu (2012). The statements were refined to fit the context of the study. The newly introduced construct of perceived trust included five measurement items. Two of the items were adapted from Hong and Cha (2013), one from Gefen, Karahanna and Straub (2003) and two new items created to suit the requirements of the study. There were no existing suitable measurement items for assessing perceived information. As a result, new items were created to evaluate this factor in the research model. The rating questions for the independent variables use a five-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree").

3.11.1 Instrument Pre-Test and Pilot Study

Pre-testing allows researchers to assess the clarity and meaning of survey questions before significant resources are invested. It ensures that questions are well-formulated, avoiding unclear or misleading items that might not collect the intended information (Bowden *et al.*, 2002). Pre-testing focuses on evaluating the wording, structure, and flow of questions to identify any issues that may confuse or mislead respondents. Piloting, on the other hand, tests the full questionnaire on a larger group of respondents to identify and resolve potential issues (Malhotra, 2007). Van Teijlingen and Hundley (2001) recommended pilot studies to identify gaps and improve the likelihood of success. Piloting is a more comprehensive process that evaluates the survey's overall

functionality, including completion time and data usability. Pre-testing generally precedes piloting.

The survey went through two piloting phases. Before these phases, the researcher conducted pre-tests and refined the questions to ensure clarity and logical flow. This also improved face and content validity. Face validity ensures the measurement indicators accurately reflect and measure the intended constructs, with items being clear, relevant and unambiguous (Oluwatayo, 2012). The literature review and reuse of existing measures contributed to content validity, while the refinement process removed unnecessary items or changed items, leaving only those vital to the research (Lewis, Snyder and Rainer Jr, 1995; Boudreau, Gefen and Straub, 2001).

For the pre-test phase, two PhD students who met the requirements of the study participants, as outlined in section 3.9.2, were asked to complete the survey independently. One student was in their first year and the other in their final year. They provided feedback on the clarity, structure, and flow of the questions. The primary goal was to ensure the questions were clear and free of ambiguity. Based on their feedback, two questions were rephrased, particularly the ranking questions regarding information source preferences. These adjustments were implemented before proceeding to the piloting phases.

The first piloting phase involved recruiting ten respondents known to the researcher who were available and willing to test the questionnaire. Feedback during this phase raised concerns about the length of some statements and the time required to complete the survey. This feedback led to further refinements before the second piloting phase. In the second phase, the researcher used purposeful sampling to recruit respondents. The questionnaire was sent to ten industry professionals, including colleagues from the banking sector. This phase also served as a content validity check, as most of the participants were experts in financial services. Feedback was received from eight individuals, with some providing written feedback via email and others offering oral feedback. Overall, most respondents found the questions clear. However, a few recommended rewording certain statements for clarity, quantifying frequency categories for consistent understanding, extending the character limit for open-ended questions, and simplifying some questions. These suggestions were incorporated to refine the questionnaire.

Finally, the researcher conducted additional tests to assess the format and structure of the data collected to ensure its suitability for statistical analysis. The final version of the questionnaire was then further reviewed with the supervisory team before being submitted to the departmental ethics committee for approval to proceed with the next phase of formal data collection.

3.11.2 Process of Data Collection

A cross-sectional survey gathers data at a single point in time to draw conclusions about a target population. These surveys are often referred to as "snapshots" of the population they examine (Allen, 2017; Hunziker and Blankenagel, 2024). In a cross-sectional study design, data is collected within a specific period, spanning days, weeks, or months. This approach differs from longitudinal studies, which use ongoing or repeated measurements to gather data at multiple time points from the same sample while focusing on the same variables of interest (Caruana *et al.*, 2015; Hunziker and Blankenagel, 2021). Longitudinal studies may track the same individuals or samples over extended periods, sometimes spanning years or even decades.

The current research adopted a cross-sectional approach to collect data through an online survey over four months. The target population consisted of customers who, at the time of the research, were at least 18 years old, primarily residing in the UK and held at least one consumer banking product relevant to the study. Additionally, participants were required to have the physical and mental capacity to make independent financial decisions. A total of 438 responses were received, of which 377 were valid.

A review of previous studies indicates that most research on technology acceptance models has employed a quantitative cross-sectional design, aligning with prior related studies. Furthermore, given the nature and objectives of this study, as well as the available time and resources, tracking repeated behaviours to establish trends was unnecessary. Therefore, a cross-sectional design was deemed the most appropriate for this research.

The data collection period was initially planned for three months, from May to July 2023. However, due to factors such as the summer holiday season and challenges in

participant recruitment, the data collection phase was extended until September 2023. This extension allowed both the researcher and potential participants to take part in the summer holiday while also exploring additional recruitment channels. The online survey link, which included the participant information sheet, instructions, and consent form along with the researcher's and departmental contact details, was distributed electronically using a convenience sampling method. This approach allowed respondents to participate from any location and at their preferred time, eliminating the presence of the researcher, which could introduce bias. Participants were recruited through various means, including word of mouth, referrals from friends, social media platforms such as LinkedIn and WhatsApp, and emails where consent was granted. Additionally, the researcher employed a partial snowballing technique, asking participants to share the survey link within their networks where feasible.

Notably, in the very early days of distribution, the survey link shared on LinkedIn resulted in 506 responses within just two days. However, upon review, only 32 of these responses met the predefined criteria for validity, considering factors like completion time and response quality. The remaining 474 responses were deemed potentially generated by automated processes and were consequently excluded. Therefore, the researcher shifted focus towards recruiting participants by word of mouth, phone calls and making contacts through WhatsApp messages placing relatively less emphasis on social media distribution strategy. Additionally, participants were also recruited through a third-party survey recruitment agent (<https://www.prolific.com>), to increase the number of valid responses and to ensure a more diverse and demographically representative sample. While this strategy effectively increased the number of valid responses, it is important to recognise a key limitation. Reliance on a survey recruitment platform may have introduced sampling bias by disproportionately attracting digitally literate participants, thereby potentially underrepresenting individuals with lower levels of digital engagement.

3.12 Data Analysis Method and Statistical Tools

The key data analysis and statistical tools used in this study include SPSS v29.0.1.0 and SmartPLS v4.1.0.2. Microsoft Excel was used for data cleaning, merging, preliminary analysis and conducting thematic analysis of qualitative data collected through open-ended survey questions. SPSS was primarily employed in the initial stages of analysis, mainly for descriptive statistics. SmartPLS has two fundamental

components which includes the measurement model and the structural model (Byrne, 2013). PLS-SEM was used to validate the measurement model, assess the structural model against the formulated hypotheses and examine causal relationships within the data. This facilitated an evaluation of relationships between constructs within the conceptual model. Additionally, SmartPLS Multi-Group Analysis (PLS-MGA) was used for comparative analysis across multiple groups.

PLS-SEM has been widely applied in studies using UTAUT or UTAUT2, as referenced in Section 3.7: Related Studies and Methods Used. This is because SEM allows relationships among latent variables to be tested concurrently, making it well-suited for complex research frameworks (Hair *et al.*, 2010; Sarstedt, Ringle and Hair, 2017). In essence, SEM is the preferred statistical method when investigating cause-and-effect relationships between multiple independent and dependent variables (Henseler, Ringle and Sarstedt, 2015). It allows for both correlation and causal effects to be analysed using SmartPLS. In this study, latent variables represent the eight independent factors in the conceptual model, while observed variables serve as indicators that indirectly measure these latent constructs (Lei and Wu, 2007). This perspective is echoed by Byrne (2013) and Ong and Puteh (2017), who assert that SEM is the most appropriate method for analysing causal relationships between independent and dependent variables. Additionally, the measurement indicators were reflective, ensuring the data was suitable for SEM analysis.

A key advantage of SmartPLS is its advanced statistical capabilities, particularly in performing multi-group analysis. PLS-MGA enables the assessment of differences between groups, helping to identify variations within specific demographic categories such as age, gender, experience, income, and location in relation to the newly introduced variables in the conceptual model. According to Cheah *et al.* (2020), evaluating moderation using PLS-MGA significantly enhances the identification of meaningful differences across group-specific relationships. Furthermore, a review of methodological approaches in prior research confirmed that PLS-SEM is effective for analysing both large and small datasets. Henseler, Ringle and Sarstedt (2015) highlighted that recent research trends are increasingly adopting PLS-SEM as a software tool for analysing quantitative data.

Given these advantages, while SPSS remains a user-friendly tool widely used by researchers and capable of running various statistical tests (Ong and Puteh, 2017), its inherent limitations made it less effective in achieving the research objectives compared to SmartPLS. As a result, SPSS was primarily used for descriptive statistics, while Excel was employed for initial data gathering, merging, and cleansing; an essential step preceding statistical testing. As emphasised by Elliott *et al.* (2006), Ilyas and Chu (2019), resolving any data quality issues is crucial before conducting analysis. Further details on the application of each tool are provided in Chapter 4: Data Analysis and Results. The table below provides an overview of the research methodology discussed.

Table 3.5: Overview of research methodology

Research Design	
Research Philosophy	Positivism
Research Approach	Deductive
Methodological Choice	Quantitative
Data Collection Strategy	Survey
Sampling Technique	Convenience Sampling
Time Horizon	Cross-Sectional
Data Analysis Method	SmartPLS (SEM), SPSS and MS Excel

3.13 Ethical Considerations

The research process would be incomplete without addressing ethical considerations. It is crucial to uphold truthfulness in reporting data, while ensuring privacy, confidentiality, and the accurate presentation of results (Hasan *et al.*, 2021). Research ethics can be defined as the responsibility of the researcher to ensure that all individuals potentially affected by the study are treated with honesty and respect throughout the research process, including the reporting of results (Gravetter and Forzano, 2018). This view was also supported by Bryman and Bell (2015) who assert that research should be guided by ethical principles and conducted in the most ethically responsible manner possible.

At many educational institutions, collecting data from human participants for research purposes without obtaining ethical approval would violate institutional regulations (Fleming and Zegwaard, 2018). In alignment with these requirements, and given that

this study involved human participants, ethical approval was obtained from the Departmental Ethics Committee before commencing data collection. The research design prioritised ethical considerations, implementing an informed consent approach to ensure voluntary participation. Each participant was provided with a detailed information sheet and consent form, allowing them to review the purpose and procedures of the study before providing their consent. Furthermore, participants retained the right to withdraw at any stage of the data collection process, with their data subsequently excluded from the analysis.

Due to the nature and objectives of the study, as well as the commitment to maintaining confidentiality and anonymity, no personally identifiable information was collected. However, as an incentive for participation, respondents were given the option to enter an optional prize draw by providing their email addresses. This information was used solely for the purpose of selecting winners upon the completion of data collection. After data cleansing, and prior to data merging and analysis, all email addresses were permanently removed from the dataset to ensure compliance with ethical and data protection standards. This approach safeguarded participant confidentiality and ensured adherence to The Data Protection Act 2018 and all relevant institutional regulations as outlined in the ethics guidelines of the department and university. For reference, Appendix B provides the information sheet and consent form, while Appendix C contains the study questionnaire.

To ensure transparency in the prize draw process, an independent PhD student from the Faculty of Engineering at the University of Strathclyde was appointed to oversee and verify the selection procedure.

Ethical approval for this study was formally granted by the University of Strathclyde, Department of Computer and Information Sciences Ethics Committee. Appendix A shows the confirmation of approval.

Ethics approval number: 2145

Date: 14th March 2023.

3.14 Chapter Summary

This chapter presents the research methodology, detailing the approaches and strategies used to address the research questions outlined for the study. It covers the

adopted research philosophy, chosen methodological framework and specific tools and techniques employed in the empirical investigation, with justifications for each selection. Building on this foundation, the next chapter discusses the data analysis process, outlining the steps taken for each tool discussed. It then presents the outcomes and results of both statistical tests and thematic analyses.

CHAPTER 4: DATA ANALYSIS AND RESULTS

4.1 Chapter Overview

This chapter presents the analysis and statistical tests conducted on the data collected, using SmartPLS and SPSS, as outlined in Chapter 3. The analysis follows a structured approach to address the research questions posed in Chapter 1. It begins with an overview of the respondents' demographic profile, followed by the development of two SEM models for online and offline consumers, forming the basis of the quantitative analysis.

The quantitative analysis is divided into two parts. Part 1 uses PLS-SEM via SmartPLS v4.1.0.2 to evaluate both the measurement and structural models, incorporating a multi-group analysis to test the hypotheses outlined in Chapter 2. The multi-group analysis was performed in two stages: first, a two-group analysis, followed by a three-group analysis to explore the influence of moderating variables on the model constructs. Part 2 employs SPSS v29.0.1.0 and Excel to analyse UK retail banking consumers' information needs, preferences for information sources, reasons for the preferences and measures of trust.

The chapter concludes with the qualitative analysis of data collected from open-ended survey questions, aimed at complementing the quantitative findings. The qualitative survey questions focused on customers' information needs, trust and the factors driving or hindering online purchasing of banking products in the UK. Thematic analysis was applied to identify key themes, and the results were compared across both quantitative and qualitative data to draw meaningful insights.

4.2 Data Screening and Cleaning

Data screening and cleaning are essential to ensure the integrity and accuracy of collected data before analysis. Proper data preparation is crucial, as neglecting this step can compromise the validity of analysis outcomes and hypothesis testing (Osborne, 2012). Thorough data screening significantly enhances the reliability of results (Alotaibi, Pardede and Tomy, 2023). Additionally, missing data can disrupt methods like PLS-SEM, which require complete datasets for optimal performance.

To improve the accuracy of the research findings, some steps were taken to ensure data quality, cleanliness and completeness before the start of analysis. The research data were made of two datasets. Dataset A includes responses from participants recruited via convenience sampling by the researcher, and Dataset B, consisting of responses from participants recruited through Prolific, a third-party recruitment platform. Despite different recruitment sources, all data were captured using the University of Strathclyde's Qualtrics survey link. These two datasets were downloaded separately from Qualtrics in Excel format. Dataset B has some extraneous fields irrelevant to the research, such as Prolific IDs which were removed. In Dataset A, email addresses were removed for privacy reasons, as respondents had the option to enter a prize draw, unlike in Dataset B, where participants were compensated directly through Prolific and so had no options to be included in the prize draw. The two datasets were then aligned with the same structure (i.e., the same number and type of columns) and merged. Invalid entries were excluded from the merged dataset based on predefined exclusion criteria: unusually fast completion times, duplicate submissions, random or patterned responses, and incomplete entries.

Eleven respondents were granted exemptions from the predefined exclusion criteria and consequently included in the study, based on justified and valid considerations. Though these respondents have less than 100% completion progress, they have passed all other inclusion criteria. Several factors demonstrate the relevance and quality of their contributions. Firstly, the survey was notably lengthy, comprising a total of 55 questions for online buyers and 40 questions for offline buyers. This included model items, screening questions, demographic questions, general online behaviour questions, and open-ended questions. Despite this, all eleven respondents answered more than half of the survey questions, including providing detailed responses to open-ended qualitative questions. Their contributions added substantial value, offering insights that are crucial for understanding the experiences and challenges faced by consumers, especially in the case of the 10 respondents who had purchased products digitally.

Moreover, these participants met all other inclusion criteria, such as appropriate time spent on the survey, ensuring that their responses were thoughtfully considered. The completion time exceeded five minutes in each case, further supporting the quality and validity of their input. Their partial responses, especially from those within the online

buyer segment, enriched the analysis by providing insights into the specifics of their purchasing experiences. Including these responses allows the study to capture a broader range of consumer perspectives, thus enhancing the depth of the insights gathered. This inclusion ensures that the analysis reflects a wider, more comprehensive view of both online and offline consumer behaviour, without compromising data quality or integrity. This exception and inclusion criteria have been supported by previous studies (Lavrakas, 2008; Mavletova, 2013; Hair Jr *et al.*, 2016; Saunders, Lewis and Thornhill, 2019).

4.3 Demographics

Demographic data provide valuable insights into how various respondent characteristics, such as gender, age, marital status, education, and job experience, differ in relation to study variables (Saunders, Lewis and Thornhill, 2019). Understanding the demographic distribution of the participants allows researchers to detect patterns and relationships within the dataset, aiding in the interpretation of results and influencing generalisation (Creswell and Creswell, 2017; Bougie and Sekaran, 2019). This section offers detailed demographic information about the participants in this study, which is essential for evaluating how representative the sample is of the broader population.

The target population for this study consists of customers of UK-based retail banks, defined by their role as consumers of various banking products and services provided by these institutions. This population includes individuals who engage with the banks for services such as personal savings, current accounts, loans, mortgages, and credit cards. Demographic data of the respondents were collected in Part 1A of the survey, covering variables such as age, gender, income, location, internet experience and financial knowledge. Part 1B focused on capturing the respondents' online profiles, providing insights into their digital behaviours and preferences.

A total of 438 responses were collected, of which 377 were deemed valid for analysis. The responses were coded in Microsoft Excel in accordance with the coding scheme outlined in Appendix D. Subsequently, the data was imported into SPSS for analysis. The relevant outputs are presented within the main body of the thesis in their respective sections, with additional results provided in Appendix G. For clarity and readability, the

SPSS outputs have been extracted and formatted as presented below. Details of the demographic distribution of the study participants are presented in Table 4.1.

Table 4.1: Demographics profile and distribution of participants

Characteristic	Frequency	Percentage
Gender		
Female	181	48.0%
Male	192	50.9%
Non-Binary	3	0.8%
Undisclosed	1	0.3%
Age		
18-20 Years	7	1.9%
21-30 Years	96	25.5%
31-40 Years	138	36.6%
41-50 Years	74	19.6%
51-60 Years	45	11.9%
61-70 Years	13	3.4%
71+ Years	4	1.1%
Income		
Below £10,000	31	8.2%
£10,001 to 20,000	59	15.6%
£20,001 to 30,000	58	15.4%
£30,001 to 40,000	75	19.9%
£40,001 to 50,000	46	12.2%
£50,001 to 60,000	29	7.7%
£60,001 to 70,000	23	6.1%
Above £70,000	33	8.8%
Undisclosed	23	6.1%
Location		
England - Rural	51	13.5%
England - Urban	126	33.4%
Northern Ireland - Urban	8	2.1%
Scotland - Rural	31	8.2%
Scotland - Urban	147	39.0%
Wales - Rural	5	1.3%
Wales - Urban	6	1.6%
Undisclosed	3	0.8%
Internet Experience		
None	1	0.3%
<1 Year	6	1.6%
1-2 Years	12	3.2%
3-5 Years	34	9.0%
6-8 Years	47	12.5%
9-10 Years	37	9.8%
>10 Years	238	63.1%
Undisclosed	2	0.5%

Financial Knowledge		
No	51	13.5%
Yes	319	84.6%
Undisclosed	7	1.9%
Purchased Online		
No	49	13.0%
Yes	328	87.0%

Gender: The gender distribution in the sample was relatively balanced, with males comprising 50.9% of respondents, slightly outnumbering females at 48%. This slight gender difference is not unusual in survey-based studies of similar scope. In the UK, the female population is slightly higher than the male population, with females making up around 51% of the population and males comprising approximately 49% (Assaker, 2020; Statistics Times, 2024). However, the male numbers being slightly higher than the female numbers is not unusual in such studies involving financial products. Previous studies have found women to be more risk averse in financial decision making than men (Eckel and Grossman, 2003; Arora and Kumari, 2015). Non-binary individuals and those who preferred not to disclose their gender made up a small portion of the sample, each constituting less than one percent.

Age Groups: The age distribution of the sample was predominantly skewed towards younger respondents, with the 31-40 age group constituting the largest segment at 36.6%, followed by participants aged 21-30 years, representing 25.5% of the total. This indicates a relatively young demographic profile, which may reflect the digital literacy and higher engagement levels often associated with younger populations in survey participation. This age distribution and participation aligns with those of other recent and related studies examining the acceptance and use of technology by consumers as seen in the works of Kraljic and Pestek (2016); Song, Kim and Sohn (2020); Ganesan and Mane (2022). In contrast, older population, especially those above 60, often exhibit lower participation due to various factors, including digital literacy gaps, less frequent usage of online systems, lower digital engagement or differing priorities among these age cohorts (Charness and Boot, 2016).

Income Levels: The income distribution within the sample indicated a moderate concentration in the middle-income range, specifically between £30,001 and £40,000, which accounted for 19.9% of respondents. This range often reflects individuals who are mid-career professionals or those within stable employment in sectors such as

public services, retail, or mid-level managerial roles (Office for National Statistics, 2023; Office for National Statistics, 2024a as cited in forbes.com). Lower income brackets, such as those earning less than £10,000, and higher income levels exceeding £70,000 were less represented in the study. This underrepresentation may be indicative of the socio-economic stratification typical in surveys of consumer behaviour, where individuals in lower income groups may have limited access or inclination to participate in online-based surveys, while higher-income earners may have different consumption patterns and priorities (Vyas and Kumaranayake, 2006).

Location: Most respondents in this study were based in urban areas, with 39% residing in Scotland and 33.4% in England, reflecting broader UK trends of urbanization, particularly in major cities. This pattern is consistent with data showing that in 2022, approximately 56.5 million people in the UK lived in urban areas, while only 10.45 million resided in rural regions (Statista, 2022). The method of data collection, which involved convenience sampling with the researcher based in Scotland, also likely contributed to the higher representation in these areas. Rural regions, especially Wales and Northern Ireland, were notably underrepresented however, this aligns with their population size. The urban-to-rural distribution in the sample remains proportionally reflective of the UK's overall population ratio of 5:1.

Internet Experience: A significant portion of respondents (63.1%) reported having over 10 years of internet experience, suggesting that the sample consists of a highly internet-savvy population. This finding aligns with recent studies emphasising the increasing prevalence of long-term internet users as digital technologies become more integrated into daily life, particularly in developed economies such as the UK (Van Deursen and Helsper, 2018). By contrast, only about 5% of respondents indicated having less than 3 years of internet experience, further reinforcing the notion that the study's participants are largely adept at navigating online environments. The predominance of experienced internet users is likely to influence the respondents' comfort with digital interfaces, making the data collection method more reliable (Hargittai and Dobransky, 2017). However, this is expected in a study where over 60% of the participants fall within the age range of 21-40 years.

The greater part of respondents (84.7%) indicated having financial knowledge, which likely correlates with their choice of financial products and their online purchasing

behaviours. This relationship is consistent with prior research suggesting that individuals with greater financial literacy tend to engage more actively in a variety of financial activities, including online transactions (Lusardi and Mitchell, 2014). Additionally, 87.0% of respondents reported purchasing financial products online, showcasing their technological proficiency and a strong inclination towards the convenience provided by digital platforms. These insights underscore the significant influence of both financial and digital literacy on contemporary consumer behaviours, as individuals with higher competency in these areas tend to utilise online tools more effectively in managing and acquiring financial products (Becerra and Korgaonkar, 2011; Van-Deursen and Van-Dijk, 2014). This relationship highlights the growing trend of consumers leveraging digital technologies for financial decision-making.

4.4 Descriptive Statistics

This analysis highlights key statistical outcomes, such as frequency distributions, minimum and maximum values, mean (M), standard deviation (SD), variance, and correlations among the study variables. Each of these statistical measures provides a foundational understanding of the characteristics of the data collected and the insights that are essential for further statistical analysis and hypothesis testing. Table 4.2 presents an analysis of the primary variables of the study, detailing a sample consisting of 49 offline buyers and 328 online buyers.

Table 4.2: Descriptive statistics for key study variables

Variable	Frequency	Min	Max	Mean	SD	Variance
Online Activity	377	2.00	5.00	3.62	0.53	0.28
Online Buyer Info Source	328	4.00	4.00	4.00	0.00	0.00
Online Buyer Source Reason	328	3.00	3.00	3.00	0.00	0.00
Online Buyer Info Need	328	1.00	5.00	4.09	0.66	0.43
Online Buyer Perception	328	1.00	5.00	3.71	0.65	0.43
Online Buyer Trust	326	1.00	5.00	3.66	0.52	0.27
PE	318	1.00	5.00	4.08	0.66	0.44
EE	318	1.00	5.00	3.83	0.75	0.56
SI	318	1.00	5.00	3.15	0.77	0.59
FC	318	1.33	5.00	3.96	0.62	0.39
PV	318	1.00	5.00	3.45	0.77	0.59
HB	318	1.00	5.00	3.50	0.77	0.60
Online Buyer BI	318	1.00	5.00	3.75	0.76	0.58
Offline Buyer Info Source	49	4.00	4.00	4.00	0.00	0.00
Offline Buyer Source Reason	49	3.00	3.00	3.00	0.00	0.00
Offline Buyer Info Need	49	2.50	5.00	3.95	0.57	0.33
Offline Buyer Perception	49	2.00	4.60	3.41	0.57	0.33

Offline Buyer Trust	48	2.75	4.75	3.89	0.47	0.22
Offline Buyer BI	48	2.00	5.00	3.83	0.69	0.47
<i>Min = minimum, Max = maximum, SD = standard deviation</i>						

The frequency data illustrate the number of observations collected for each variable. The numerical discrepancy across certain variables—318 versus 328 for online data and 48 versus 49 for offline data—as detailed in Table 4.2, is attributable to the eleven respondents who were granted exemptions from the predefined exclusion criteria. These exemptions were based primarily on the quality of their responses, particularly the insights derived from their qualitative data.

Minimum and maximum values delineate the range of responses for each variable. Given that the scale employed ranged from 1 to 5, except for the ranking variables of information source and information source reasons, it is expected that the minimum and maximum values would align within this range. Table 4.2 corroborates this, indicating that all relevant variables span from 1.00 to 5.00.

The mean represents the average score for each variable across respondents, with mean values ranging from 3.00 to 4.09, which reflects moderate to moderately high levels of agreement among participants concerning the studied variables. Standard deviation values, ranging from 0.47 to 0.77, reveal the degree of variation in participant responses. Variance further illustrates the extent of deviation from the mean, with lower values (e.g., 0.22) indicating less variability, while higher values (up to 0.60) suggest greater variability.

4.5 Respondents' Online Activity

Given the sensitive nature of financial transactions, consumers often approach online financial purchases with caution, especially if they have limited experience with such transactions. Online environments can heighten apprehension, particularly for individuals new to online purchasing, as the perceived risks related to privacy, security, and transaction transparency can feel pronounced in financial contexts (Abbes *et al.*, 2024; Baklouti and Boukamcha, 2024). To explore this behaviour, Part 1B of the survey included a set of ten questions designed to gauge participants' online behaviour across non-financial products, shedding light on any variations of behaviour across financial and non-financial products.

Respondents rated their frequency of engagement across ten online services, as outlined in Table 4.3, using a five-point scale ranging from ‘Never’ (0) to ‘Always’ (5). The scale defined ‘Never’ as no usage for the given service, ‘Rarely’ as 1-6 times annually, ‘Sometimes’ as 1-2 times monthly, ‘Often’ as 3-6 times monthly, and ‘Always’ as at least once per week.

Table 4.3: Measure of respondents’ online activity

Your Online Activities	Purchase Channel	Frequency	Mean	Std. Deviation
Online Banking Services	Offline	49	4.14	0.957
	Online	328	4.39	0.839
Purchase of Insurance Services	Offline	49	2.94	1.405
	Online	328	3.23	1.314
Purchase of Travel Tickets	Offline	49	3.67	1.144
	Online	328	3.56	1.137
Payment of Bills	Offline	49	4.04	0.912
	Online	328	4.17	0.852
Purchase of groceries	Offline	49	2.55	1.156
	Online	328	2.98	1.183
Purchase of household products	Offline	49	3.43	0.890
	Online	328	3.47	0.928
Purchase of clothing and fashion	Offline	49	3.53	0.915
	Online	328	3.43	0.974
Selling of products & services	Offline	49	2.73	1.186
	Online	328	2.72	1.242
Information seeking & sharing	Offline	49	4.33	0.801
	Online	328	4.18	0.954
Social media	Offline	49	4.33	0.922
	Online	328	4.12	1.201

Analysis of the mean and standard deviation values revealed that the most frequent online activities among respondents included information-seeking, social media use, online banking and bill payment. However, for information-seeking, offline buyers showed a notably lower standard deviation, indicating consistent engagement in this activity among this subgroup. This consistency among offline buyers in information-seeking behaviour may suggest a reliance on the internet for specific, routine searches.

4.6 PLS-SEM Path Model Evaluation

In this study, the survey was designed to encompass two distinct categories of respondents: online and offline consumers. This approach aimed to provide deeper insights and enhance inclusivity by incorporating individuals who purchased financial products online as well as those that purchased offline. The combined data from these two respondent groups was used to evaluate the conceptual framework of the study developed and presented in Figure 2.15. The study examined the model by evaluating factors that affect UK consumers' willingness to purchase financial products online.

In the initial phase of evaluating the overall research framework, the data was segmented by online and offline consumers and tested separately using distinct models. This separation was essential, as applying the core variables of the UTAUT2 model to consumers who have not purchased financial products online would be unjustifiable. However, the newly introduced context-specific constructs, Perceived Information (PI) and Perceived Trust (PT), reflect the attitudes of both consumer types toward the acceptance of online purchasing.

Consequently, additional statistical tests were conducted focusing on these new constructs, new moderators and three original UTAUT2 moderators, through a two-tier and subsequently a three-tier multi-group analysis. This approach provided deeper and broader insights into the factors influencing acceptance for each consumer category and the impact of the various demographic characteristics based on specific sub-groupings.

The structural equation model consists of two primary components namely the measurement model, also known as the outer model, and the structural model, or inner model (Sarstedt, Ringle and Hair, 2021; Idrees, Xu and Haider, 2024). The measurement model defines the relationships between observed variables and their latent constructs, assessing construct validity and reliability. In contrast, the structural model captures the causal relationships among latent variables, analysing the influence of exogenous (independent) variables on endogenous (dependent) variables. Together, these components allow for a comprehensive evaluation of complex models such as the one under investigation.

4.7 Measurement Model Assessment

Estimation of the measurement model for this study is through reflective measures. Reflective measures serve as indicators of the causal relationship between the constructs and the measurement items. The constructs themselves are not dependent on the measures unlike in formative mode where the construct is viewed as a result of its indicators (Bollen and Lennox, 1991 as cited in Hanafiah, 2020). In reflective constructs, the researcher initiates the analysis process by assessing the indicator loadings. Indicator loading also known as Factor Loading (FL) indicate the strength of the relationship between the measure and the construct. Higher factor loadings signify stronger relationships, thereby indicating greater reliability (Sarstedt, Ringle and Hair, 2021).

It is generally recommended to exclude items with low factor loadings to improve the reliability and validity of constructs. Factor loadings below 0.5 can potentially compromise construct reliability and validity, making it advisable to remove these items during analysis to optimize model fit (Hair *et al.*, 2010). In alignment with this, Chin (1998) highlighted that factor loadings below 0.5 might indicate reliability issues, suggesting that low-loading items should be omitted during model refinement. Consequently, this study excluded all items with loadings below 0.5 to ensure greater reliability. For the online model, originally consisting of 26 model items, two items were removed from the construct of perceived trust (PT). Similarly, two items were removed from the offline model, which initially comprised 11 measurement items. The measurement model primarily examines internal consistency, convergent validity, and discriminant validity (Hair *et al.*, 2014).

4.7.1 Internal Consistency

Composite reliability, also known as construct reliability, and Cronbach's alpha, also referred to as coefficient alpha, were used to assess the internal consistency reliability of each construct. In exploratory research, composite reliability values between 0.60 and 0.70 can be deemed acceptable, while in explanatory research, values ranging from 0.70 to 0.95 indicate satisfactory to strong reliability (Hair Jr *et al.*, 2016). Generally, a Cronbach's alpha of 0.70 or higher is considered a reliable benchmark. An indicator is typically seen as reliable if its factor loading exceeds 0.70, reflecting a satisfactory level of item reliability (Hair Jr *et al.*, 2016; Cheung *et al.*, 2024). Factor loadings signify the strength of the relationship between an indicator and its construct

(Sarstedt, Ringle and Hair, 2021). In this study, all indicator loadings shown in Figures 4.1 and 4.2 for both the Online and Offline models exceeded 0.70. These represent the online and offline consumers respectively. This result further strengthened the overall reliability of the model.

4.7.2 Convergent Validity

The next criterion used to evaluate the fitness of the measurement model was the assessment of convergent validity. Convergent validity evaluates the extent to which multiple indicators, theoretically linked to the same construct, actually converge or show a high correlation with one another (Lim, 2024). This assessment evaluates how well the indicators within a construct measure the same underlying concept. In other words, it assesses the degree to which a measure is related to its own items or distinct from its own items within the same construct.

Convergent validity is typically assessed using Average Variance Extracted (AVE) (Sarstedt, Ringle and Hair, 2021; Sathyanarayana and Mohanasundaram, 2024). Higher AVE values reflect stronger convergence among the indicators or items, indicating greater convergent validity. To confirm convergent validity, the AVE value should generally be above 0.5 (Hair Jr *et al.*, 2021b). As presented in Table 4.4, the AVE values in this study clearly surpassed this criterion for both the online and offline models.

4.7.3 Discriminant Validity

The final step in evaluating the adequacy of the measurement model for this study was the assessment of discriminant validity. This assessment typically serves as the final step in construct validation before moving on to test the research hypotheses (Sathyanarayana and Mohanasundaram, 2024). Discriminant validity assesses the uniqueness of different constructs within the study, confirming that measures intended to be distinct are indeed either unrelated or only minimally related (Sathyanarayana and Mohanasundaram, 2024). Evaluating discriminant validity confirms that a construct is unique and not interchangeable with other constructs in the model (Hair *et al.*, 2014). In other words, discriminant validity evaluates that the items of a construct should have lower correlations with items of other constructs and should distinctly define the specific construct they are intended to measure.

In this study, discriminant validity was evaluated using the Heterotrait-Monotrait (HTMT) ratio of correlations, where HTMT values are expected to remain below the conservative threshold of 0.9 (Hair Jr *et al.*, 2021a). As shown in Table 4.4, nearly all HTMT values for both online and offline consumers met this standard threshold, except for the three pairs under the online model: Facilitating Conditions (FC) and Effort Expectancy (EE), Performance Expectancy (PE) and Habit (HB), and Behavioural Intention (BI) and Habit (HB). These are highlighted in Table 4.4. The HTMT values for these pairs were $F \rightarrow EE = 0.960$, $P \rightarrow HB = 0.905$, and $B \rightarrow HB = 1.206$.

While these pairs slightly exceed the threshold, which can affect the model's validity, the model still demonstrates acceptable discriminant validity overall, as six out of nine constructs meet the threshold. Furthermore, all items for each of these constructs have individual factor loadings above 0.7, or an average factor loading above 0.7, supporting the model's validity. In exploratory research or when introducing new constructs, as is the case in this study, factor loadings between 0.60 and 0.70 are generally considered acceptable, particularly in more complex models (Lim, 2024).

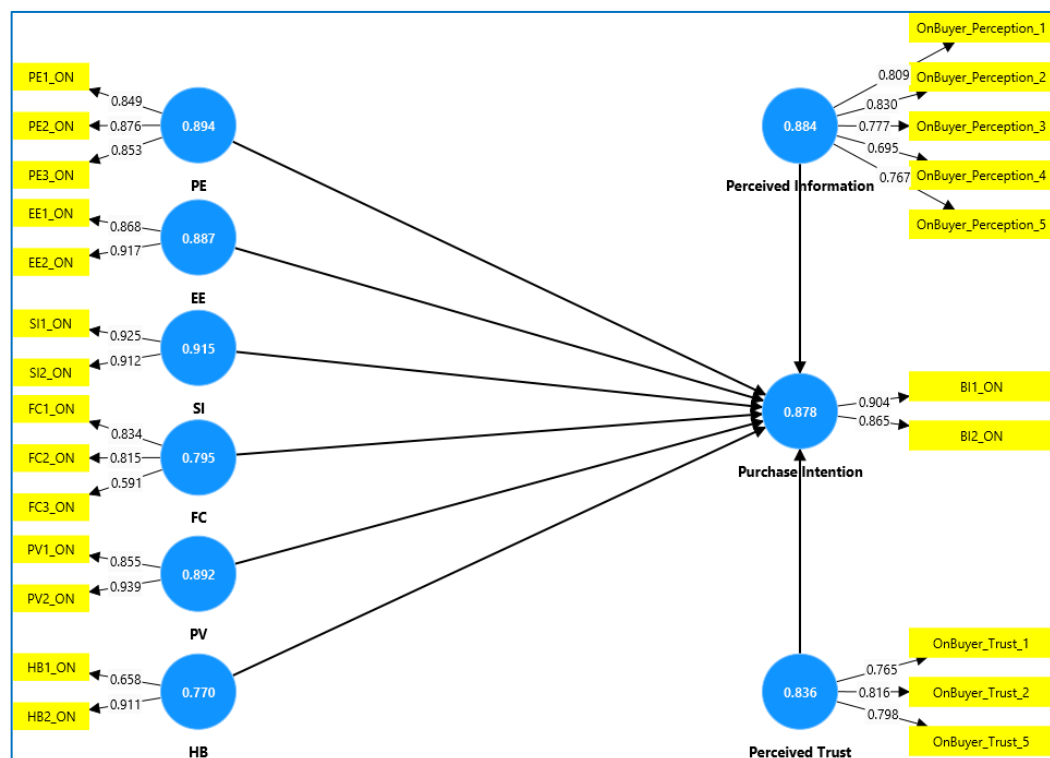


Figure 4.1: Measurement model for online consumers

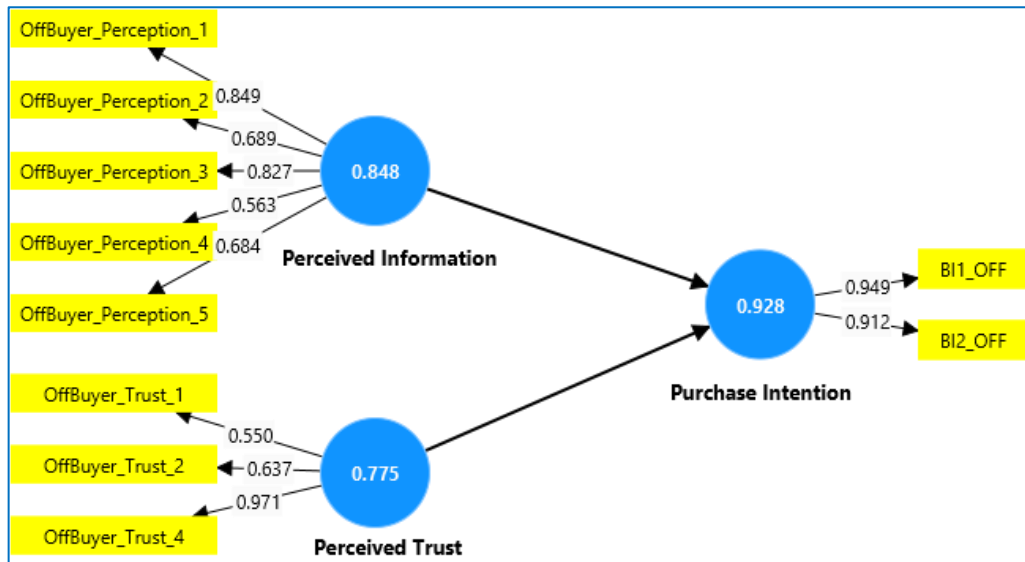


Figure 4.2: Measurement model for offline consumers

Table 4.4: Reliability and validity of the measurement models

Variable	CA	CR	AVE	HTMT								
				EE	FC	HB	PE	PV	PI	PT	BI	SI
Online Buyers												
EE	0.748	0.887	0.797	-								
FC	0.609	0.795	0.569	0.960	-							
HB	0.448	0.770	0.631	0.795	0.876	-						
PE	0.823	0.894	0.739	0.880	0.882	0.905	-					
PV	0.768	0.892	0.806	0.637	0.582	0.836	0.576	-				
PI	0.837	0.884	0.604	0.692	0.687	0.715	0.565	0.425	-			
PT	0.708	0.836	0.629	0.741	0.769	0.732	0.594	0.471	0.664	-		
BI	0.724	0.878	0.783	0.729	0.771	1.206	0.860	0.649	0.563	0.607	-	
SI	0.814	0.915	0.843	0.468	0.529	0.809	0.472	0.543	0.362	0.372	0.575	-
Offline Buyers												
PI	0.787	0.848	0.533	-	-	-	-	-	-			
PT	0.659	0.775	0.550	-	-	-	-	-	0.504	-		
BI	0.848	0.928	0.866	-	-	-	-	-	0.384	0.393	-	-

4.7.4 Overall Model assessment

An assessment of the reliability and validity of the measurement model was carried out and internal consistency, convergent validity and discriminant validity established. These validity measures either met or exceeded the recommended thresholds, affirming the robustness of the measurement model. As a result of passing reliability and validity tests, the measurement model is deemed reliable for further analysis. The next logical step is to evaluate the structural model, which examines the relationships

between the constructs and how well the hypothesised model fits the data (Hair Jr *et al.*, 2021a)

4.8 Structural Model Assessment

In PLS-SEM, the structural model (also known as the inner or path model) is evaluated by examining the path coefficients. These coefficients reveal the strength and significance of the relationships between independent (exogenous) and dependent (endogenous) variables. This approach is essential for understanding the direct effects of the independent variables on the dependent ones, which helps in drawing insights and validating the proposed hypotheses.

Testing was conducted using bootstrapping with 5000 subsamples, a technique in which multiple subsamples are repeatedly drawn from an original sample to estimate bootstrap standard errors (Sarstedt, Ringle and Hair, 2021). These standard errors allow for calculating t-values and p-values, which are then used to assess the significance of the structural paths. This method improves the reliability of significance tests by resampling, yielding robust t-statistics and p-values. This allowed for a thorough evaluation of the relationships and effects between predictor and outcome variables, enabling meaningful conclusions.

4.8.1 Hypotheses Testing

As outlined in Section 4.6, the core measurement items from the UTAUT2 constructs were not applicable to offline consumers who had not engaged in the digital purchasing of financial products. Consequently, two separate models, online and offline, were created to test the hypotheses developed based on each dataset. Figure 4.3 shows the structural model for online consumers while Figure 4.4 has the structural model for offline consumers. Further statistical tests were conducted using multi-group analysis on the new constructs introduced to the research framework, incorporating the five moderating variables as seen in Figure 2.15. The research hypotheses based on the framework developed in Chapter 2 were tested, with conclusions drawn from analysing path coefficients, p-values, t-values and coefficients of determination also known as R^2 . Table 4.5 has the results of the hypotheses testing.

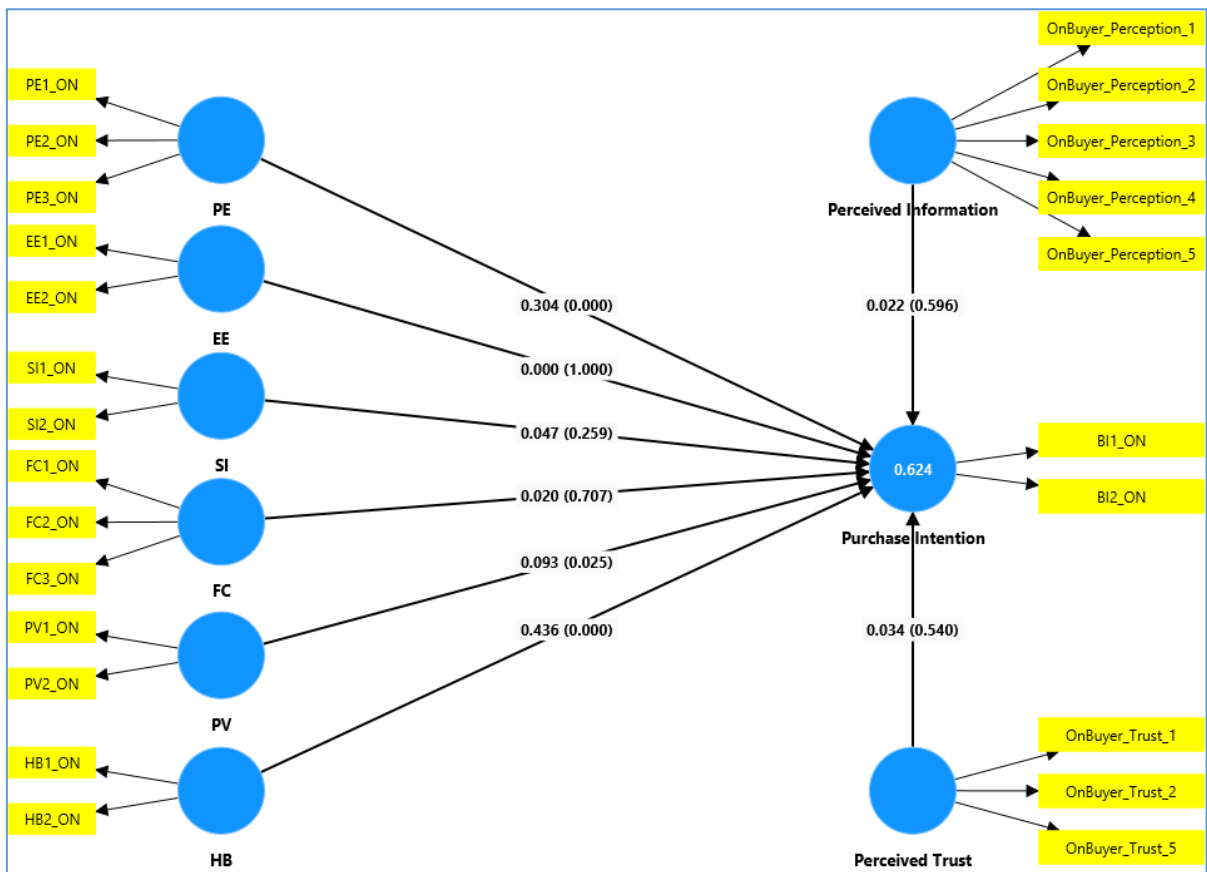


Figure 4.3: Structural model for online consumers

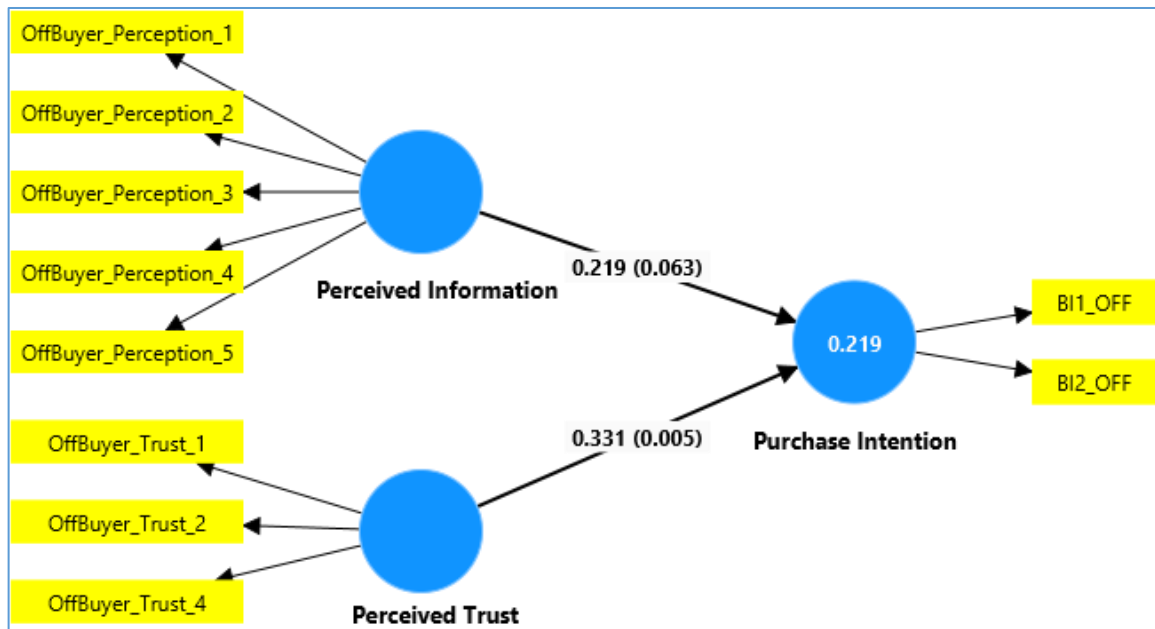


Figure 4.4: Structural model for offline consumers

H1: Performance Expectancy (PE) will positively influence customers' intention to purchase banking products online.

PE had a positive and significant impact on online purchase intention (OPI) ($B = 0.304$, $t = 4.997$, $p < 0.001$), with a small effect ($F^2 = 0.101$). Therefore, H1 was supported.

H2: Effort Expectancy (EE) will positively influence customers' intention to purchase banking products online.

Effort expectancy had no impact on online purchase intention (OPI) ($B = 0.000$, $t = 0.000$, $p = 1.000$), with no effect ($F^2 = 0.000$). Therefore, H2 was not supported.

H3: Social Influence (SI) will positively influence customers' intention to purchase banking products online.

Social influence had a positive but non-significant impact on online purchase intention (OPI) ($B = 0.047$, $t = 1.129$, $p = 0.259$), with a very small effect ($F^2 = 0.004$). Therefore, H3 was also not supported.

H4: Facilitating Conditions (FC) will positively influence customers' intention to purchase banking products online.

Facilitating condition had a positive but non-significant impact on online purchase intention (OPI) ($B = 0.020$, $t = 0.376$, $p = 0.707$), with a very small effect ($F^2 = 0.001$). Therefore, H4 was not supported.

H5: Price Value (PV) will positively influence customers' intention to purchase banking products online.

Price value had a positive and significant impact on online purchase intention (OPI) ($B = 0.093$, $t = 2.241$, $p = 0.025$), with small effect size ($F^2 = 0.015$). Therefore, H5 was supported.

H6: The Habit (HB) of online shopping will positively influence customers' intention to purchase banking products online.

Habit had a positive and significant impact on online purchase intention (OPI) ($B = 0.436$, $t = 7.585$, $p < 0.001$), with moderate effect size ($F^2 = 0.251$) Therefore, H6 was supported.

H7a: For **online** buyers, Perceived Trust (PT) will positively influence customers' intention to purchase banking products online.

Perceived trust had a positive but non-significant impact on online purchase intention (OPI) ($B = 0.034$, $t = 0.613$, $p = 0.540$), with a small effect size ($F^2 = 0.002$) Therefore, H7 was not supported.

H7b: For **offline** buyers, Perceived Trust (PT) will positively influence customers' intention to purchase banking products online.

Perceived trust had a positive and significant impact on online purchase intention (OPI) ($B = 0.331$, $t = 3.047$, $p = 0.005$), with a small effect size ($F^2 = 0.114$) Therefore, H7b was supported.

H8a: For **online** buyers, Perceived Information (PI) will positively influence customers' intention to purchase banking products online.

Perceived information had a positive but non-significant impact on online purchase intention (OPI) ($B = 0.022$, $t = 0.530$, $p = 0.596$), with a very small effect size ($F^2 = 0.001$) Therefore, H8 was not supported.

H8b: For **offline** buyers, Perceived Information (PI) will positively influence customers' intention to purchase banking products online.

Perceived information had a positive but non-significant impact on online purchase intention (OPI) ($B = 0.219$, $t = 1.936$, $p = 0.063$), with a small effect size ($F^2 = 0.050$). While a p-value of 0.063 does not meet the strict threshold for significance, the limited sample size of 49 respondents for offline consumers suggests that the result provides evidence of partial support. This finding could inform and guide future research. Therefore, H8b is considered partially supported.

Table 4.5: Structural model testing results

ID	Path	Estimate	T	P	F ²	Status	Buyer Type
H1	PE → OPI	0.304	4.997	0.000	0.101	Supported	Online
H2	EE → OPI	0.000	0.000	1.000	0.000	Not Supported	Online
H3	SI → OPI	0.047	1.129	0.259	0.004	Not Supported	Online
H4	FC → OPI	0.020	0.376	0.707	0.001	Not Supported	Online
H5	PV → OPI	0.093	2.241	0.025	0.015	Supported	Online
H6	HB → OPI	0.436	7.585	0.000	0.251	Supported	Online
H7a	PT → OPI	0.034	0.613	0.540	0.002	Not Supported	Online
H7b	PT → OPI	0.331	3.047	0.005	0.114	Supported	Offline
H8a	PI → OPI	0.022	0.530	0.596	0.001	Not Supported	Online
H8b	PI → OPI	0.219	1.936	0.063	0.050	Partially Supported	Offline

Table 4.6: Hypotheses results [H1-H8]

ID	Hypotheses	Online Consumer	Offline Consumer
H1	Performance Expectancy (PE) will positively influence customers' intention to purchase banking products online.	Supported	N/A
H2	Effort Expectancy (EE) will positively influence customers' intention to purchase banking products online.	Not Supported	N/A
H3	Social Influence (SI) will positively influence customers' intention to purchase banking products online.	Not Supported	N/A
H4	Facilitating Conditions (FC) will positively influence customers' intention to purchase banking products online.	Not Supported	N/A
H5	Price Value (PV) will positively influence customers' intention to purchase banking products online.	Supported	N/A
H6	The Habit (HT) of online shopping will positively influence customers' intention to purchase banking products online.	Supported	N/A
H7	Perceived Trust (PT) will positively influence customers' intention to purchase banking products online.	Not Supported	Supported
H8	Perceived Information (PI) will positively influence customers' intention to purchase banking products online.	Not Supported	Partially Supported

4.8.2 Effect Size (F^2) Measurement

The effect size indicates the change in the coefficient of determination (R^2) when a specific independent variable is removed from the model, thereby measuring the impact of a particular predictor variable on the dependent variable. Following Cohen (2016) "T-shirt" effect size classification, a small effect size is 0.02, a medium effect size is 0.15, and a large effect size is 0.35. The effect sizes for the predictor variables in this study range from small to moderate. However, it is important to note that this metric is influenced by the sample size (Lakens, 2022).

4.8.3 Coefficient of Determination (R^2)

To assess how well the structural model predicts actual outcomes, the coefficient of determination (R^2) value was examined. This statistic indicates the proportion of variance in the dependent variable that can be explained by the independent variables. A higher R^2 value suggests that the independent variables have a stronger influence on the dependent variable (Hair Jr *et al.*, 2021a). In the online buyers' model, the independent variables EE (Effort Expectancy), FC (Facilitating Conditions), HB (Habit), PE (Performance Expectancy), PV (Price Value), PI (Perceived Information), PT (Perceived Trust), and SI (Social Influence) were used to predict BI (Behavioural Intention). Together, these predictors explained 62.4% of the variance in BI. In the second model for offline buyers, PI (Perceived Information) and PT (Perceived Trust) served as the predictor variables, while BI was the dependent variable. In this case, PI and PT jointly explained 21.9% of the variance in BI (see Table 4.7).

4.8.4 Variance Inflation Factor

The Variance Inflation Factor (VIF) values were checked to ensure the reliability of the structural model and to detect possible collinearity issues. According to Kock (2015), as cited in Oyewobi *et al.* (2023), high VIF values can indicate problematic collinearity, which affects a model's accuracy. The VIF values for both the online and offline buyer models were all below the acceptable limit of 3.3, as shown in Table 4.7. This confirms that neither model was impacted by collinearity or path contamination, ensuring high model quality. The absence of such issues enhances the credibility of the models, contributing significantly to the reliability and accuracy of their predictions and overall validity.

Table 4.7: Quality measurement of the structural models

Outcome Variable	R ²	VIF
Online Buyers		
BI: Online Purchase Intention	0.624	2.616
Offline Buyers		
BI: Online Purchase Intention	0.219	1.228

R² values and effect size metrics must be interpreted in the context of sample size, the research setting, and the specific discipline. Benchmarks vary across fields, and should be interpreted with caution (Shmueli, 2010; Lakens, 2022). It is not uncommon to have low values for these metrics in consumer related research. For example, in marketing and social sciences, low to moderate R² values are common due to multiple influencing factors in consumer behaviour and complex social data (Smith and Albaum, 2005). In this research context, a 21.9% value of coefficient of determination may still offer valuable insights.

4.8.5 The New Constructs and Moderators

In standard hypothesis testing, the two newly introduced constructs in the research framework were tested without the inclusion of moderator variables. For offline buyers, perceived trust was found to have a positive influence on customers' intention to purchase banking products online. However, this relationship was not supported for online buyers. Perceived information showed a positive but non-significant influence on purchase intention for online buyers, whereas for offline buyers, the relationship was partially significant.

Testing the research framework without moderators, as above, assumes that the relationship is consistent across all situations or groups thereby overlooking potential variations. In other words, without moderators, a study assumes that the effect applies equally to everyone and under all conditions. This assumption of homogeneity is unrealistic in a real-world situation (Cheah *et al.*, 2020). This introduces the likelihood of missing key insights thereby reducing the accuracy and applicability of research findings. Baron and Kenny (1986) assert that a moderator influences the strength or direction of the relationship between a predictor and an outcome. It helps determine under what conditions or for which groups a particular effect is stronger, weaker, or changes entirely. Additionally, examining the effects of different moderators is crucial,

as research focused on financial matters, or the specific nature of this study may hold particular relevance for certain geographic or demographic groups.

The base UTAUT2 model has three core moderators, which have been widely applied in previous studies. The new research framework introduced two additional moderating variables that have not been tested in conjunction with the base moderators in previous studies. Furthermore, the study did not follow the standard moderation approach, which focuses on a single relationship at the interaction point between exogenous and endogenous variables. Instead, Partial Least Squares Multi-Group Analysis was employed to explore relationships and effects in greater depth. MGA offers a broader perspective by assessing each moderator's influence across all relationships within the model, rather than focusing on a singular interaction (Matthews, 2017; Sarstedt, Ringle and Hair, 2017; Latan, 2018).

The study therefore explored further insights through a multi-group analysis by testing the moderating effects of age, gender, experience, income, and location based on defined subgroups on the two new constructs of the model: perceived information and perceived trust. MGA was not applied to all the model constructs but to the two new constructs which are common to both customer groups. MGA was performed in two phases: a two-group analysis for each moderator and a three-group analysis. These analyses aimed to uncover differences in respondent behaviour across subgroups, providing a deeper understanding of how specific moderators influence each customer subgroup. This approach is particularly valuable given the variation in the study participants with differences in location, experience, age, income and gender. The following Subsection presents the results of the multi-group analysis.

4.9 Multiple Group Analysis (MGA)

According to Cheah *et al.* (2020), using PLS-SEM multi-group analysis to assess moderation can significantly aid in identifying meaningful differences across multiple relationships within group-specific results. MGA also called between-group analysis (Matthews, 2017) employs advanced statistical methods to determine whether parameters vary significantly across two or more groups. An extensive literature review was carried out to correctly classify the participants of the study to leverage on the benefits of MGA.

Based on a review of relevant literature, previous academic studies, government reports, and agency publications, the initial phase of the multi-group analysis utilised a two-group classification of respondents, referred to in this study as a two-tier or binary classification. This uniform binary grouping allows for the consistent testing of all moderating variables across the same number of subgroups, avoiding a mix of binary and non-binary grouping. Adopting this approach may enhance the research by providing deeper and more detailed insights into the moderating effects of each variable within a subgroup. As a result, the following hypotheses were tested using multi-group analysis:

H9: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.

H10: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.

H11: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.

H12: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.

H13: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.

H14: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on more experienced internet users than less experienced internet users.

H15: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.

H16: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.

H17: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).

H18: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).

4.9.1 MGA with Two-Group Classification

As detailed in the preceding subsection, the data collected was stratified into two groups for each moderating variable. The original location data categorised the UK population into eight subgroups, comprising urban and rural classifications for Northern Ireland, England, Wales, and Scotland (NEWS). However, this data was subsequently aggregated into two broader categories: rural and urban respondents. For the gender variable, respondents identified as male, female, or non-binary. Only three individuals identified as non-binary; thus, for the purposes of the analysis and the creation of two subgroups, data from non-binary respondents was excluded from the MGA.

Income was categorised into two groups: minimum wage and above minimum wage. This classification was based on a review of government reports (Forbes, 2024; Minimum Wage UK, 2024; Office for National Statistics, 2024b). Age was divided into younger and older groups, as informed by prior literature (Agudo-Peregrina, Hernández-García and Acquila-Natale, 2015; Segura and Thiesse, 2015; Scheffers *et al.*, 2017; Hanif *et al.*, 2022). Additionally, respondents were classified based on their level of internet experience. This category includes, less experienced and more experienced customers, consistent with previous studies (Alrawad *et al.*, 2023; Hou and Shen, 2024). Appendix E, Level 1 (Column 2) shows the original grouping of respondents based on survey questions while Level 2 (Column 3) shows the new two-tier MGA classifications.

After the initial data coding and grouping in Excel to align with the newly established classifications, the subsequent step involved structuring the groups, allocating data to

each group, and specifying group variables along with their corresponding values for each subgroup within SmartPLS. For example, the group variable gender was coded with the values male = 1 and female = 2 while the group variable location was set to group values of rural=1 and urban=2. The two-group analysis using PLS-MGA structural model testing was applied to the overall dataset, followed by separate analyses of the online consumer dataset and the offline consumer dataset. The path analysis results are presented below.

MGA with Two-Group Classification: Complete Dataset

To establish a baseline, the model was first tested on the overall dataset, excluding the influence of moderators. This involves testing the model on the overall dataset using the constructs of perceived information and perceived trust, which are common to both online and offline consumer groups.

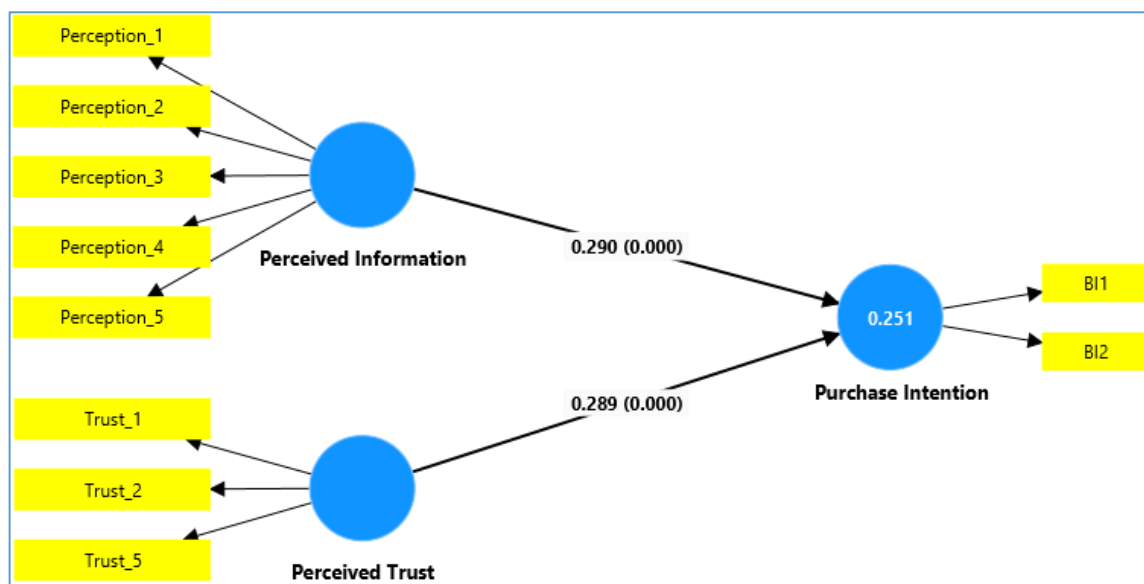


Figure 4.5: Baseline structural model

Table 4.8: MGA path analysis for baseline model

Path	Estimate	T	P	R ²	Status
PI → OPI	0.290	5.641	0.000	0.251	Significant
PT → OPI	0.289	6.566	0.000		Significant

As shown in Figure 4.5 and Table 4.8, perceived information had a positive and significant impact on online purchase intention (B = 0.290, t = 5.641, p <0.001).

Similarly, perceived trust also had a positive and significant impact on online purchase intention ($B = 0.289$, $t = 6.566$, $p < 0.001$). Together, PI and PT accounted for 25.1% ($R^2 = 0.251$) of the variance in purchase intention. These results suggest that PI and PT have a substantial influence on UK customers' intention to purchase banking products online, in the absence of other factors and variables. Therefore, these factors can be further examined for potential moderation effects.

Complete Dataset: The Moderation Effect of Age

H9: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.

H10: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.

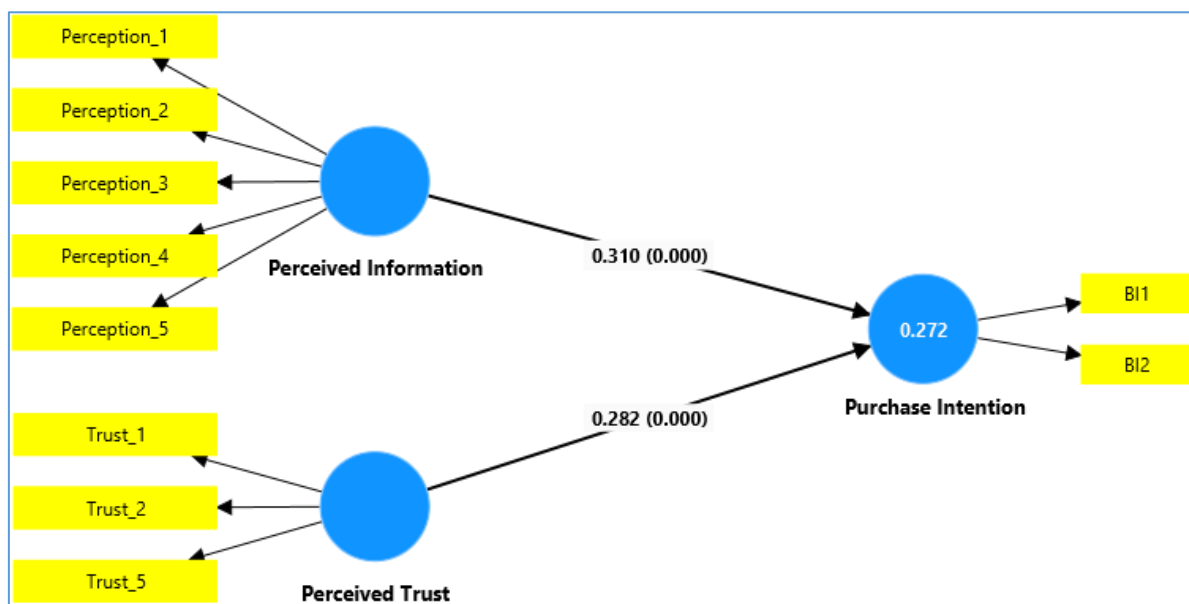


Figure 4.6: MGA structural model for younger customers

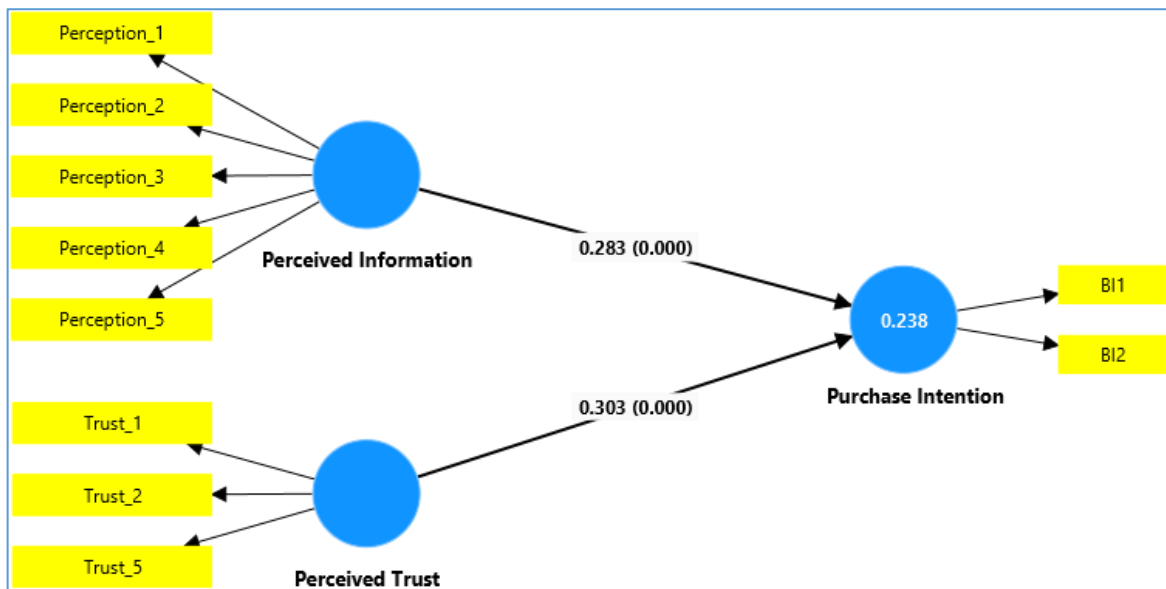


Figure 4.7: MGA structural model for older customers

Table 4.9: MGA path analysis – age factor

Path	Estimate	T	P	R ²	Status
Younger Customers					
PI → OPI	0.310	4.359	0.000	0.272	H9: Supported
PT → OPI	0.282	4.646	0.000		H10: Not Supported
Older Customers					
PI → OPI	0.283	4.024	0.000	0.238	H9: Supported
PT → OPI	0.303	4.447	0.000		H10: Not Supported

Table 4.9 and Figures 4.6 and 4.7 show that all relationships are significant however, perceived information (PI) had a larger positive and significant impact on online purchase intention (OPI) for younger customers ($B = 0.310$, $t = 4.359$, $p < 0.001$) compared to older customers ($B = 0.283$, $t = 4.024$, $p < 0.001$). In contrast, perceived trust (PT) had a larger positive and significant impact on online purchase intention for older customers ($B = 0.303$, $t = 4.447$, $p < 0.001$) than for younger customers ($B = 0.282$, $t = 4.646$, $p < 0.001$). Additionally, the younger customers' model exhibited a higher variance ($R^2 = 0.272$) than the older customers' model ($R^2 = 0.238$). These results suggest that younger customers are more influenced by perceived information, whereas older customers are more influenced by perceived trust. Therefore, H9 was fully supported, while H10 was not supported.

Complete Dataset: The Moderation Effect of Gender

H11: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.

H12: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.

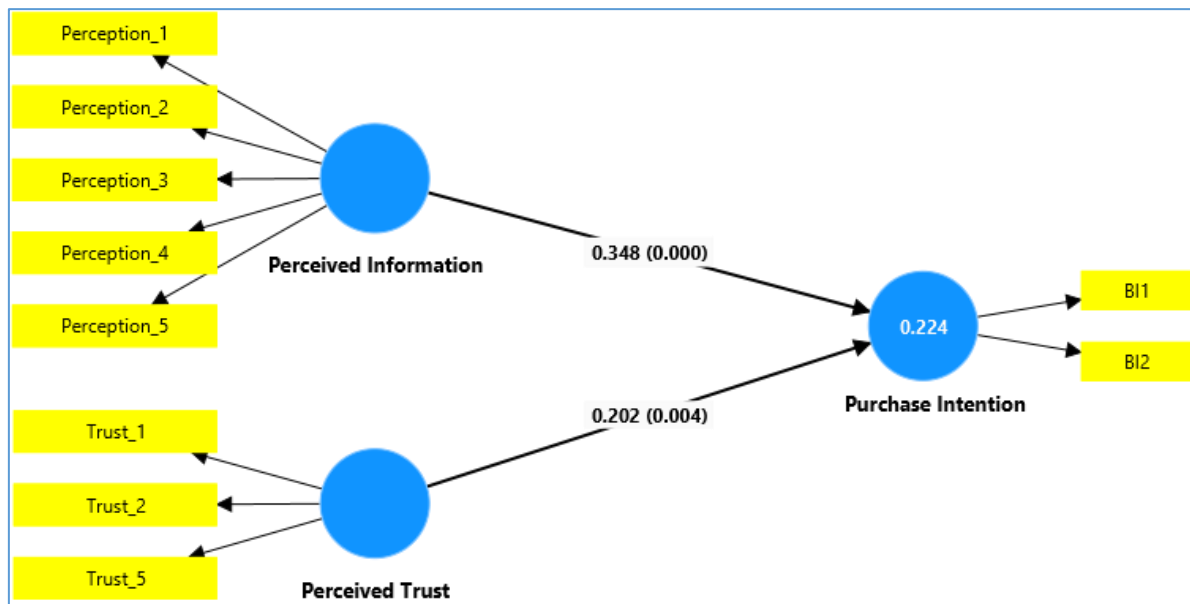


Figure 4.8: MGA structural model for female customers

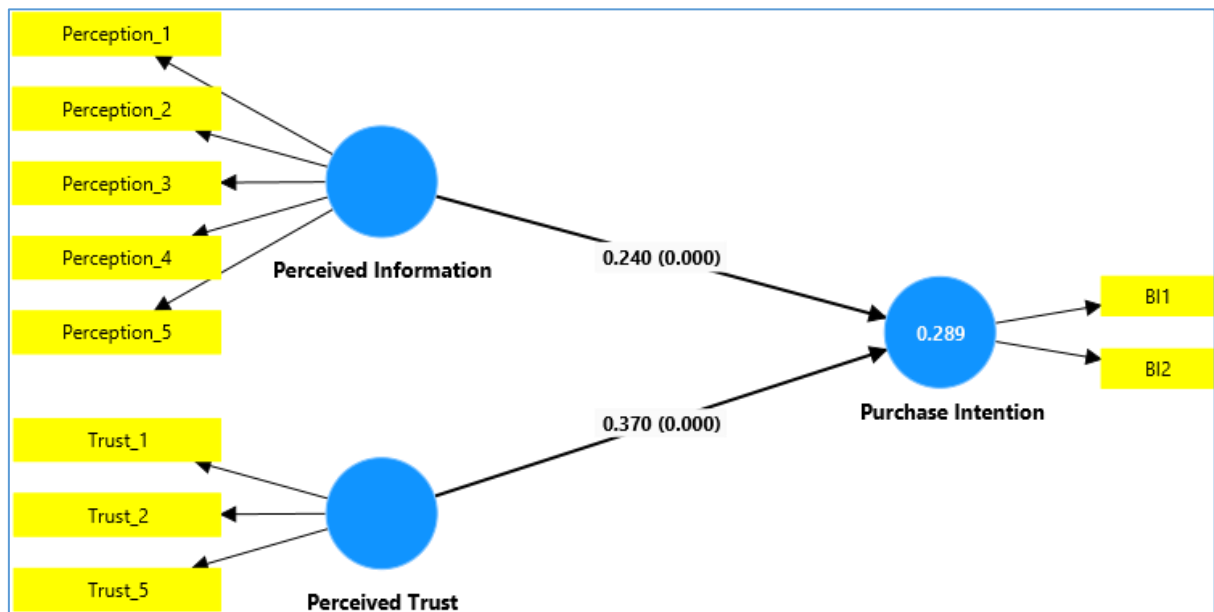


Figure 4.9: MGA structural model for male customers

Table 4.10: MGA path analysis – gender factor

Path	Estimate	T	P	R ²	Status
Female Customers					
PI → OPI	0.348	4.638	0.000	0.224	H11: Not Supported
PT→ OPI	0.202	2.845	0.004		H12: Supported
Male Customers					
PI → OPI	0.240	3.574	0.000	0.289	H11: Not Supported
PT→ OPI	0.370	6.229	0.000		H12: Supported

As shown in Table 4.10 and Figures 4.8 and 4.9, perceived information (PI) had a larger positive and significant impact on online purchase intention (OPI) for female customers ($B = 0.348$, $t = 4.638$, $p < 0.001$) compared to male customers ($B = 0.240$, $t = 2.845$, $p = 0.004$). On the other hand, perceived trust (PT) had a larger positive and significant impact on purchase intention for male customers ($B = 0.370$, $t = 6.229$, $p < 0.001$) than for female customers ($B = 0.202$, $t = 2.845$, $p = 0.004$). Additionally, the male model exhibited a higher variance ($R^2 = 0.289$) than the female model ($R^2 = 0.224$), suggesting that male customers have a greater overall influence on OPI. Therefore, H12 was fully supported, while H11 was not supported.

Complete Dataset: The Moderation Effect of Internet Experience

H13: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.

H14: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.

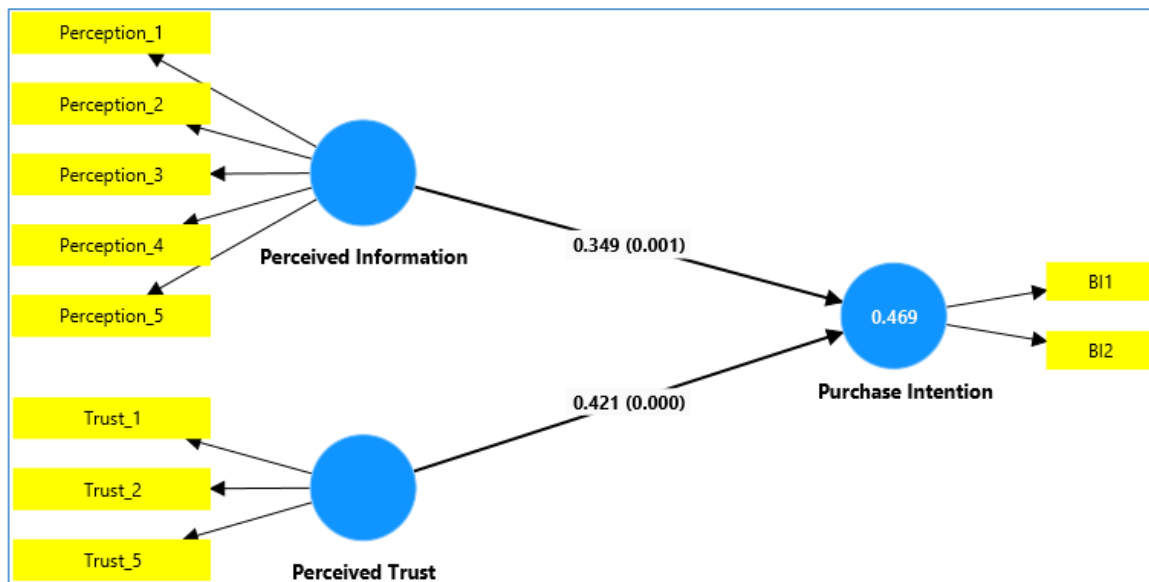


Figure 4.10: MGA structural model for less experienced customers

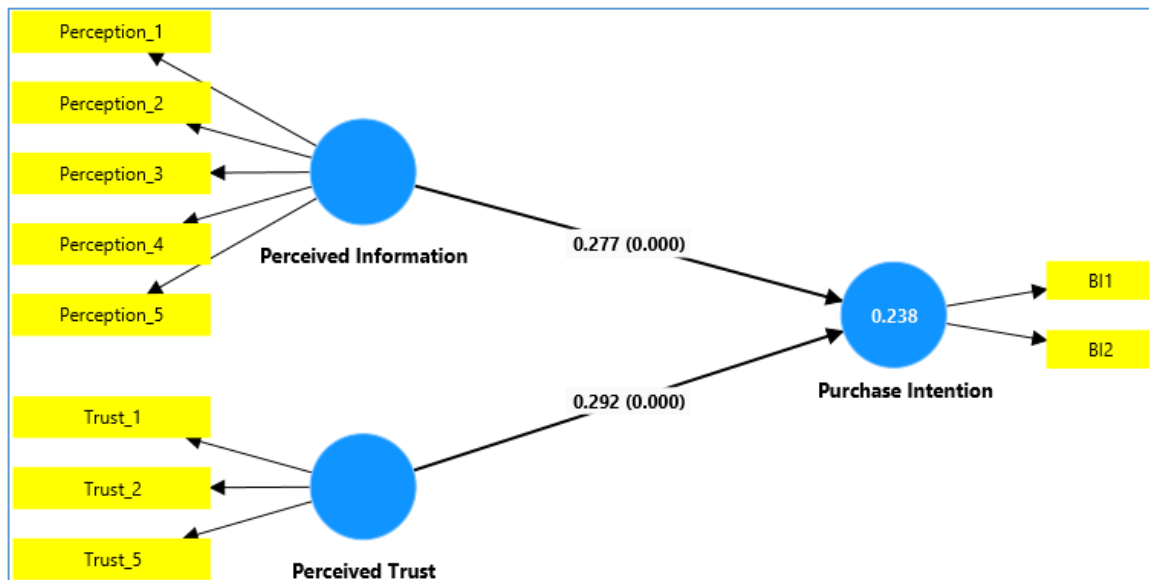


Figure 4.11: MGA structural model for more experienced customers

Table 4.11: MGA path analysis – internet experience factor

Path	Estimate	T	P	R ²	Status
Less Experienced Customers					
PI → OPI	0.349	3.241	0.001	0.469	H13: Supported
PT → OPI	0.421	3.843	0.000		H14: Supported
More Experienced Customers					
PI → OPI	0.277	4.871	0.000	0.238	H13: Supported
PT → OPI	0.292	6.035	0.000		H14: Supported

Figures 4.10 and 4.11 and table 4.11 demonstrate that perceived information (PI) had a larger positive and significant impact on online purchase intention (OPI) for less experienced customers ($B = 0.349$, $t = 3.421$, $p = 0.001$) compared to more experienced customers ($B = 0.277$, $t = 4.871$, $p < 0.001$). Similarly, perceived trust (PT) had a larger positive and significant impact on purchase intention for less experienced customers ($B = 0.421$, $t = 3.843$, $p < 0.001$) than for more experienced customers ($B = 0.292$, $t = 6.035$, $p < 0.001$). The model for less experienced customers exhibited a higher variance ($R^2 = 0.469$) compared to the more experienced customer model ($R^2 = 0.238$), suggesting that less experienced buyers contributed more substantially to purchase intention overall. Consequently, both H13 and H14 were fully supported.

Complete Dataset: The Moderation Effect of Location

H15: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.

H16: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.

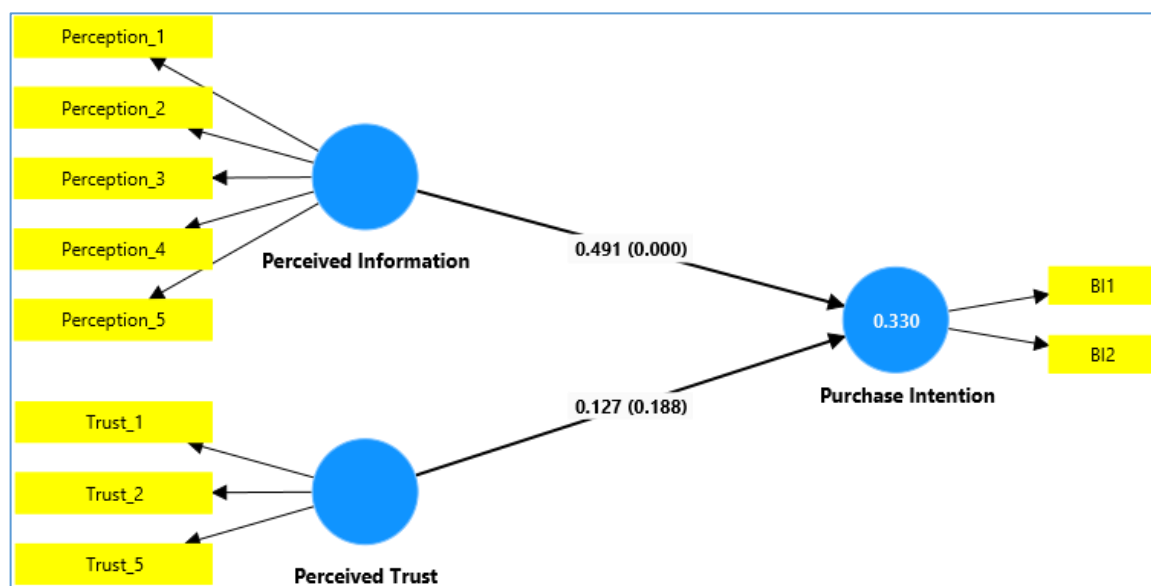


Figure 4.12: MGA structural model for rural customers

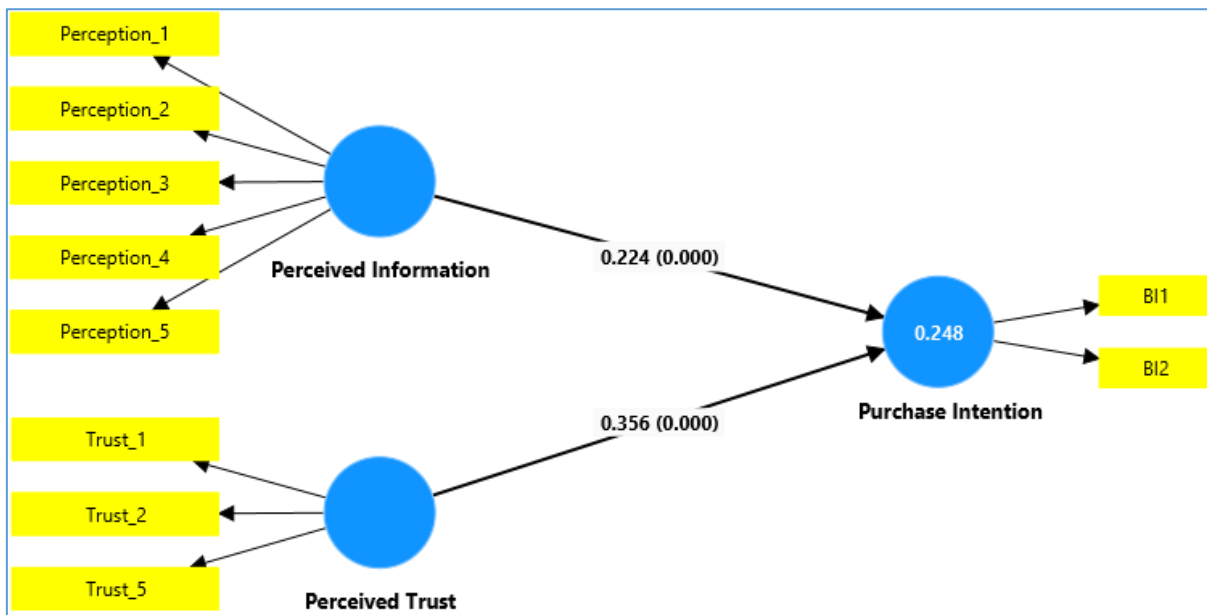


Figure 4.13: MGA structural model for urban customers

Table 4.12: MGA path analysis – location factor

Path	Estimate	T	P	R ²	Status
Rural Customers					
PI →OPI	0.491	4.452	0.000	0.330	H15: Not Supported
PT→OPI	0.127	1.316	0.188		H16: Supported
Urban Customers					
PI →OPI	0.224	4.232	0.000	0.248	H15: Not Supported
PT→OPI	0.356	7.204	0.000		H16: Supported

As shown in Figures 4.12 and 4.13 and Table 4.12, perceived information (PI) had a stronger positive and significant impact on online purchase intention (OPI) among rural customers ($B = 0.491$, $t = 4.452$, $p < 0.001$) compared to urban customers ($B = 0.224$, $t = 4.232$, $p < 0.001$). In contrast, perceived trust (PT) had a greater positive and significant impact on purchase intention among urban customers ($B = 0.356$, $t = 7.204$, $p < 0.001$) compared to rural customers ($B = 0.127$, $t = 1.316$, $p = 0.188$). Furthermore, the model for rural customers exhibited a higher variance ($R^2 = 0.330$) than that of the urban customers ($R^2 = 0.248$), indicating that rural buyers contributed more significantly to BI overall. Therefore, H15 was not supported, while H16 was fully supported.

Complete Dataset: The Moderation Effect of Income

H17: The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).

H18: The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).

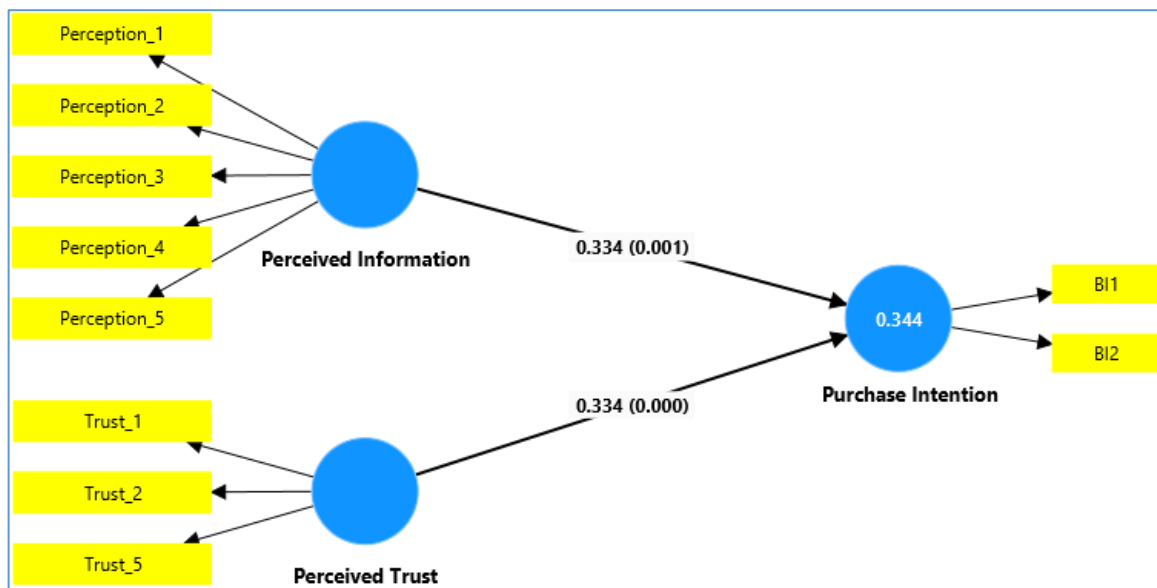


Figure 4.14: MGA structural model for low-income customers

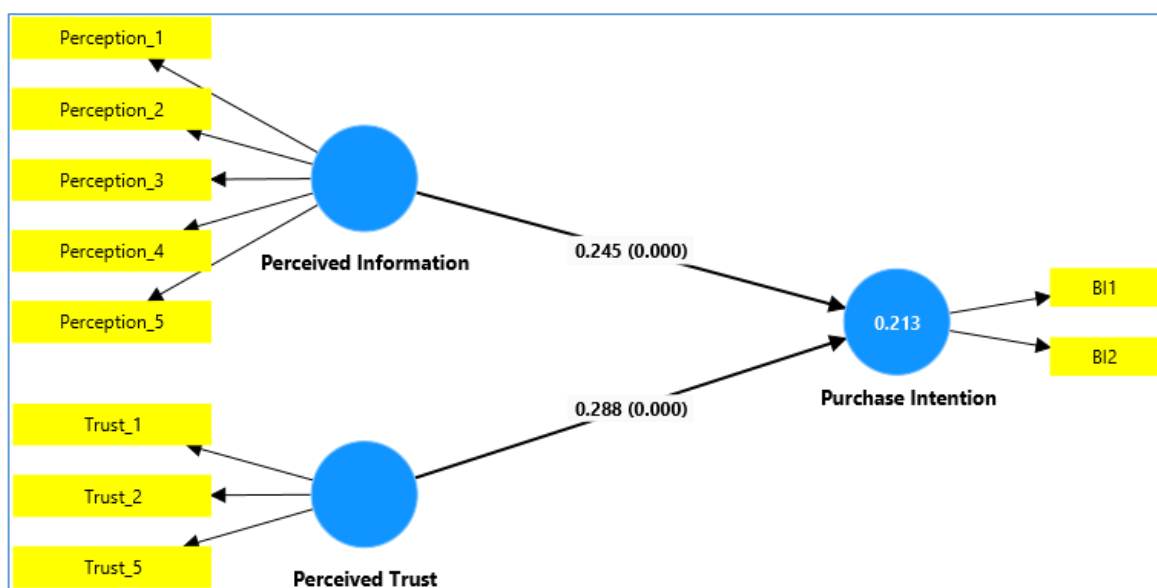


Figure 4.15: MGA structural model for high-income customers

Table 4.13: MGA path analysis – income factor

Path	Estimate	T	P	R ²	Status
Low Income (Minimum Wage)					
PI → BI	0.334	3.404	0.001	0.344	H17: Supported
PT → BI	0.334	3.499	0.000		H18: Supported
High Income (Above Minimum Wage)					
PI → BI	0.245	4.353	0.000	0.213	H17: Supported
PT → BI	0.288	5.373	0.000		H18: Supported

As presented in Table 4.13 and Figures 4.14 and 4.15, perceived information (PI) had a stronger positive and significant effect on online purchase intention (BI) for low-income customers ($B = 0.334$, $t = 3.404$, $p = 0.001$) compared to high-income customers ($B = 0.245$, $t = 4.353$, $p < 0.001$). Likewise, perceived trust (PT) demonstrated a greater positive and significant influence on purchase intention for low-income customers ($B = 0.334$, $t = 3.499$, $p < 0.001$) than for high-income customers ($B = 0.288$, $t = 5.373$, $p < 0.001$). Higher variance ($R^2 = 0.344$) is also noted in the low-income model, suggesting that low-income customers had greater overall impact on BI. Consequently, both H17 and H18 were fully supported.

Summary of Two-Tier MGA for Overall, Online and Offline Consumers

After testing and comparing the different groups with the overall dataset, the study proceeded with a more detailed analysis of the online and offline consumer groups separately, using a two-group MGA approach. For the online dataset, the baseline hypotheses results revealed that perceived information (PI) had a positive and significant impact on purchase intention ($B = 0.304$, $p < 0.001$), while perceived trust (PT) also had a positive and significant impact on purchase intention ($B = 0.285$, $p < 0.001$). This indicates that both PI and PT influenced the purchase intentions of online consumers at the baseline, with PI being more influential due to its higher estimate.

For the offline dataset, without any moderating variables, PI had a positive and partially significant effect on purchase intention ($B = 0.219$, $p = 0.063$). The p-value of 0.063 was considered partially significant due to the limited sample size for offline buyers. However, for the same consumer segment, PT had a positive and statistically significant impact on purchase intention ($B = 0.331$, $p = 0.005$). This suggests that, with no moderating effects, PT is a key driver of purchase intention for offline

customers. These findings align with the results of the standard structural testing outlined in Subsection 4.8.1.

Table 4.14 summarises the results of the multi-group analysis conducted on the overall dataset, the online consumers' dataset, and the offline consumers' dataset. Consequently, the hypotheses outcomes are presented in Table 4.15.

Table 4.14: Two-tier multi-group path analysis: offline, online and overall dataset

Path	Offline		Online		Overall Data		Hypotheses Outcome
	Estimate	P	Estimate	P	Estimate	P	
No Moderation							
PI → OPI	0.219	0.063	0.304	0.000	0.290	0.000	All Data: significant for both Online: significant for both. Offline: significant for PT
PT → OPI	0.331	0.005	0.285	0.000	0.289	0.000	
Female							
PI → OPI	0.516	n/a	0.254	0.000	0.348	0.000	All data: significant for both Online: significant for both. Offline: sample size issue
PT → OPI	0.216	n/a	0.361	0.000	0.202	0.004	
Male							
PI → OPI	0.192	0.390	0.358	0.000	0.240	0.000	All data: significant for both Online: significant for both Offline: not significant for both
PT → OPI	0.285	0.338	0.213	0.010	0.370	0.000	
Above Minimum Wage							
PI → OPI	0.174	0.267	0.277	0.000	0.245	0.000	All data: significant for both Online: significant for both Offline: significant for PT only
PT → OPI	0.442	0.003	0.267	0.000	0.288	0.000	
Minimum Wage							
PI → OPI	0.575	0.003	0.336	0.005	0.334	0.001	All data: significant for both Online: significant for both Offline: significant for PI only
PT → OPI	0.365	0.055	0.310	0.008	0.334	0.000	
Less Experienced							
PI → OPI	n/a	n/a	0.283	0.007	0.349	0.001	All data: significant for both Online: significant for both Offline: sample size issue
PT → OPI	n/a	n/a	0.519	0.000	0.421	0.000	
More Experienced							
PI → OPI	0.151	0.241	0.308	0.000	0.277	0.000	All data: significant for both Online: significant for both. Offline: significant for PT only.
PT → OPI	0.479	0.000	0.261	0.000	0.292	0.000	
Younger							
PI → OPI	0.385	0.107	0.321	0.000	0.310	0.000	All data: significant for both Online: significant for both. Offline: not significant for both.
PT → OPI	0.142	0.583	0.290	0.000	0.282	0.000	
Older							
PI → OPI	0.262	0.084	0.291	0.000	0.283	0.000	All data: significant for both Online: significant for both. Offline: significant for PT only.
PT → OPI	0.479	0.001	0.275	0.000	0.303	0.000	

Rural							
PI → OPI	0.350	n/a	0.498	0.000	0.491	0.000	All data: significant for PI Online: significant for PI only. Offline: sample size issue
PT → OPI	0.012	n/a	0.132	0.219	0.127	0.188	
Urban							
PI → OPI	0.197	0.224	0.240	0.000	0.224	0.000	All data: significant for both Online: significant for both. Offline: significant for PT only.
PT → OPI	0.422	0.010	0.349	0.000	0.356	0.000	

Table 4.15: Hypotheses results [H9-H18]

ID	Hypotheses	Outcome
H9	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.	Supported
H10	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.	Not Supported
H11	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.	Not Supported
H12	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.	Supported
H13	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.	Supported
H14	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.	Supported
H15	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.	Not Supported

H16	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.	Supported
H17	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).	Supported
H18	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).	Supported

4.9.2 MGA with Three-Group Classifications

Following the completion of a two-group analysis for all five moderators, additional insights emerged, prompting the need for further exploration of the data. To achieve this, three-group classifications were introduced for the ordinal variables of age, income, and internet experience. Gender and location could not be further subdivided, as these variables were already categorised into binary classifications: male/female for gender and rural/urban for location.

This refinement sought to identify potential bunching effects that may have been obscured in the two-group analysis. The approach was further informed by existing literature, reports and previous studies that examined and categorised these variables similarly. Both the categorisation and the threshold for each subgroup shown in Appendix F is as informed by past studies. Age was segmented into young adulthood, mid-adulthood, and late adulthood similar to the works of Arnett (2000), Baltes and Smith (2003) and Wu (2019). Internet experience was classified into beginner, intermediate, and advanced users adopting the groupings from previous works (Selwyn *et al.*, 2003; Helsper and Eynon, 2010; Hargittai and Dobransky, 2017).

Income was divided into three: low income, middle income and high income. Income classification in the UK, such as low, middle, and high income, varies according to the criteria and data sources applied. These classifications are guided by previous

research and official UK government reports. These often incorporate regional cost of living differences (Office for National Statistics, 2021; 2023; 2024a)

As with the two-group analysis, the overall dataset, after group coding in Excel, was imported into SmartPLS, and grouping variables were created to define each subgroup. The overall data was then analysed separately for each subgroup, followed by distinct analyses of each subgroup using the online and offline datasets separately. However, due to sample size limitations, the three-group analysis could not be conducted for all subgroups within the offline consumer dataset. Further subdivision of the offline dataset, for some moderating variable, resulted in an insufficient sample size to meet the minimum requirements for conducting bootstrapping analysis in SmartPLS4. Table 4.16 summarises the findings of the three-group MGA. The highlighted sections present the path analysis for the three moderating variables of income, age, and internet experience organised into three-tiered groups.

Table 4.16: Three-tier MGA path analysis: offline, online and overall dataset

Path	Offline		Online		All Data		Hypotheses Outcome
	Estimate	P	Estimate	P	Estimate	P	
No Moderation							
PI → OPI	0.219	0.063	0.304	.000	.290	.000	All Data: significant for both Online: significant for both Offline: significant for PT
PT → OPI	0.331	0.006	0.285	.000	.289	.000	
High Income							
PI → OPI	n/a	n/a	0.297	.107	.281	.094	All data: not significant for both Online: not significant for both Offline: sample size issue
PT → OPI	n/a	n/a	0.178	.386	.170	.350	
Mid Income							
PI → OPI	0.162	n/a	0.253	.001	.241	.001	All data: significant for both Online: significant for both. Offline: sample size issue.
PT → OPI	0.737	n/a	0.384	.000	.378	.000	
Low Income							
PI → OPI	0.452	.017	0.351	.000	.329	.000	All data: significant for both Online: significant for both. Offline: significant for PI only
PT → OPI	0.183	.355	0.219	.017	.246	.002	
Advanced User							
PI → OPI	0.072	.601	0.307	.000	.266	.000	All data: significant for both Online: significant for both. Offline: significant for PT only
PT → OPI	0.514	.000	0.269	.000	.305	.000	
Intermediate User							
PI → OPI	n/a	n/a	0.289	.112	.352	.013	All data: significant for both Online: significant for PT only Offline: sample size issue
PT → OPI	n/a	n/a	0.330	.011	.282	.007	

Beginner							
PI → OPI	n/a	n/a	0.077	.843	.093	.725	All data: significant for PT only Online: not significant for both Offline: sample size issue
PT → OPI	n/a	n/a	0.747	.058	.720	.004	
Late Adulthood							
PI → OPI	n/a	n/a	0.388	.251	.411	.179	All data: not significant for both Online: not significant for both. Offline: sample size issue
PT → OPI	n/a	n/a	0.097	.827	.047	.904	
Mid Adulthood							
PI → OPI	0.321	.017	0.304	.000	.299	.000	All data: significant for both Online: significant for both Offline: significant for both
PT → OPI	0.504	.000	0.330	.000	.355	.000	
Young Adulthood							
PI → OPI	0.385	.107	0.321	.000	.310	.000	All data: significant for both Online: significant for both Offline: not significant for both
PT → OPI	0.142	.583	0.290	.000	.282	.000	

Age

The relationship between perceived information and online purchase intention was stronger among young adults than middle-aged adults. However, this relationship did not hold between middle-aged adults and those in late adulthood, thereby partially supporting H9, as observed in the two-group MGA. Similarly, H10 was not supported in both the two-group and three-group MGA.

Experience

In the three-group analysis, H13 was partially supported for the relationship between perceived information and online purchase intention, particularly between intermediate and advanced internet users, aligning partially with the two-group MGA results. Consistent with the two-group MGA, H14 was supported in the three-group MGA. Specifically, the relationship between perceived trust and online purchase intention was stronger among beginner internet users compared to advanced users.

Income

Both the two-group and three-group MGA results indicate that perceived information has a greater influence on low-income customers compared to mid and high-income customers. Similarly, the relationship between perceived trust and online purchase intention was weaker among high-income customers. These findings align with the two-group MGA outcomes for H17 and H18.

4.9.3 Limitations of Three-Group MGA in this Study

To maintain the focus of the study and ensure more reliable findings, discussion will primarily concentrate on the results of standard structural testing and the two-group MGA. Future research could explore the three-group MGA in greater depth with a larger sample size, as the limited sample size in this study may not yield fully accurate results. Additionally, inadequate or limited sample size for three-group analysis can lead to potential overlap between subgroups, resulting in overlapping characteristics that may obscure meaningful comparisons.

4.10 Additional Quantitative Analysis

The objectives of this research include understanding the information needs of UK retail banking customers, identifying their preferred primary sources of information, and exploring the underlying reasons for their choice of information sources. Some of the survey data relating to these objectives were analysed using SPSS (version 29.0.1.0). However, while questions relating to information needs were Likert scale questions, preferred information sources and the reasons for their choices were designed as ranking questions, which are not well-suited for analysis in SPSS. This limitation arises because SPSS calculates mean rankings based on response values rather than the frequency of responses. Consequently, while SPSS was employed to analyse data related to information needs, Excel's Pivot Table functionality was utilised for the analysis of ranking questions regarding preferred information sources and their underlying reasons. The results of these analyses are presented below in Table 4.17

Table 4.17: Information needs based on four criteria

Survey Question		Purchase Channel			
Information Needs		Online Consumers			
	No. of Respondents	Min	Max	M	SD
Product information	328	1	5	4.33	0.85
Price information	328	1	5	4.39	0.77
Brand reputation	328	1	5	4.17	0.81
Post-sales support	328	1	5	3.46	1.12
Information Needs		Offline Consumers			
Product information	49	1	5	4.04	0.89
Price information	49	1	5	4.31	0.80
Brand reputation	49	1	5	4.10	0.80
Post-sales support	49	1	5	3.35	1.01

4.10.1 Consumer Information Needs

For both online ($M=4.39$, $SD=0.77$) and offline ($M = 4.31$, $SD = 0.80$) consumers, price information emerged as the key information need from the four prescribed information needs presented to consumers, followed closely by product information. Price information has the highest mean value for both category of consumers indicating that cost was a significant consideration for both online and offline consumers. This finding signifies the critical role of price in consumer decision-making process. This aligns with earlier hypotheses outcomes which shows that price value had a positive and significant impact on online purchase intention.

In contrast, post-sales support had the lowest mean values for both online ($M=3.46$, $SD=1.12$) and offline consumers ($M=3.35$, $SD=1.01$). These relatively low mean values suggest that consumers may have prioritised the need for price information over other critical considerations, such as product details and brand image. These findings highlight a potential emphasis on cost as a primary factor in consumer decision-making across both purchasing contexts.

4.10.2 Preferred Primary Information Sources

Analysis of source preferences reveals that the most preferred primary information source is visiting bank branches, with online aggregators such as moneysupermarkets.com following closely. The third preference is advice from family, friends, and colleagues, indicating a dependence on human support during the purchasing process. Recognising and addressing consumer information needs might potentially reduce dependency on bank branches and human advisors. Table 4.18 presents the results.

Table 4.18: Information source preference

Information Sources	1st Preference	2nd Preference	3rd Preference
Retail banking websites	39	21	32
Social media networking sites	66	21	28
Visiting bank branches	83	38	33
Internet search engines	63	44	44
Financial consultants and advisors	66	62	76
Advice from family, friends and colleagues	40	67	87
Online Aggregators (e.g. MoneySuperMarket)	20	124	77

4.10.3 Source Preference Reasons

Further analysis into the factors influencing customers' choice of information sources, based on the five criteria presented in the survey, revealed that quick access to information and the reliability of information were the primary considerations. Table 4.19 presents a detailed summary of the findings.

Table 4.19: Information source preference reasons

Information Source Reason	Reason Code	1st Reason	2nd Reason	3rd Reason
Quick access to required information	1	131	51	111
Availability of required information	2	82	96	73
Reliability of information provided	3	52	102	86
Clarity of information	4	67	89	81
Internet safety concerns	5	45	39	26
Grand Total		377	377	377

These findings reinforce the importance of streamlined and shorter customer journey and trustworthiness in shaping consumer preferences when selecting sources to support their purchasing decisions. In the context of today's fast-paced and demanding environment, consumers increasingly favour information channels that offer convenience and expedited access over those requiring complex or time-intensive processes. This preference reflects a broader trend where simplicity and speed influence purchasing behaviour.

4.11 Qualitative Analysis of Open-Ended Questions

The survey questionnaire included three open-ended questions, enabling the researcher to gather qualitative data that could provide unexpected insights. This approach allowed for the exploration of diverse customer perspectives that might not have been adequately captured through a structured quantitative data alone.

The three open ended questions include:

1. In your opinion, what additional information should UK retail banks provide customers on their websites to encourage the adoption of online purchasing?
2. In your opinion, what else can UK retail banks do to increase customers' trust towards the adoption of online purchasing?
3. Please share your thoughts on what you believe would encourage you to purchase online, as well as what discourages you from purchasing online.

4.11.1 Qualitative Analysis of Information Needs

The data collected from each of the three open-ended questions outlined above was analysed using thematic analysis (TA). Thematic analysis is a qualitative research method focused on identification, analysis and interpretation of patterns, commonly referred to as themes, within qualitative data (Braun and Clarke, 2019). To comprehend the information needs of participants, an inductive thematic analysis was employed. First level analysis identified various topics and corresponding codes. Second level analysis organised topics into overarching themes. A total of 182 topic codes were generated leading to 26 unique themes. Table 4.20 presents the first ten most frequently occurring themes related to customers' information needs and the desired attributes of that information.

Table 4.20: Thematic output of information needs and attributes

Information Needs	Count of Theme Codes	% of Total Count
Security and safety information	31	17.03%
Live chat support information	24	13.19%
Contact details, quick access to advisors	21	11.54%
Information on cost of borrowing/lending	18	9.89%
Detailed product information	15	8.24%
Online tutorial, beginner's guide, enriched FAQ	14	7.69%
Clarify financial terms	13	7.14%
Information on charges & fees	10	5.50%
Information Attributes		
Simple language, simple English	23	12.64%
Clear information	13	7.14%
Total	182	100%

The results of the thematic analysis clearly indicate that respondents have a strong need for information related to security and safety. Equally, the need for information facilitating direct communication with advisors emerged as a critical informational priority. A notable proportion of participants also reported difficulties in understanding the information provided on banking websites, suggesting that while certain information may be present, its effectiveness is undermined by poor presentation and complexity. This is reflected in the frequent calls for clearer, simpler, and more accessible language. Collectively, the insights gained clearly indicate that respondents either require new information or seek the simplification, enrichment, and clarification of existing information. The following excerpts illustrate both the specific information needs and the desired attributes of information, as expressed by the respondents.

R2: *“It will be useful to provide explanation of all key financial terms used for the benefit of customers with very little financial literacy.”*

R49: *“Use the most simple language and explain technical terms used in every product description.”*

R68: *“Sometimes there's too much information on websites which could confuse the consumers. It would be better if it is short, clear, and concise.”*

R130: *“They should make sure information is given in simple to understand language, as sometimes jargon is hard to understand.”*

R184: *“Possibly a phone line or live chat where they can speak to a real (not AI) advisor prior to purchasing online.”*

4.11.2 Qualitative Analysis of Consumers' Trust

Through thematic analysis of the open-ended question on trust, the study identified key concerns expressed by participants regarding what banks can do to enhance customer trust in online purchasing. The top ten themes are presented below. As shown in Figure 4.16, enhanced data and infrastructure security emerged as the primary trust-related concern, followed by transparency and clarity of information. Additionally, the training and education of both support staff and customers were identified as critical trust factors. A seamless transition to digital platforms also necessitates accessible and well-trained customer advisors.

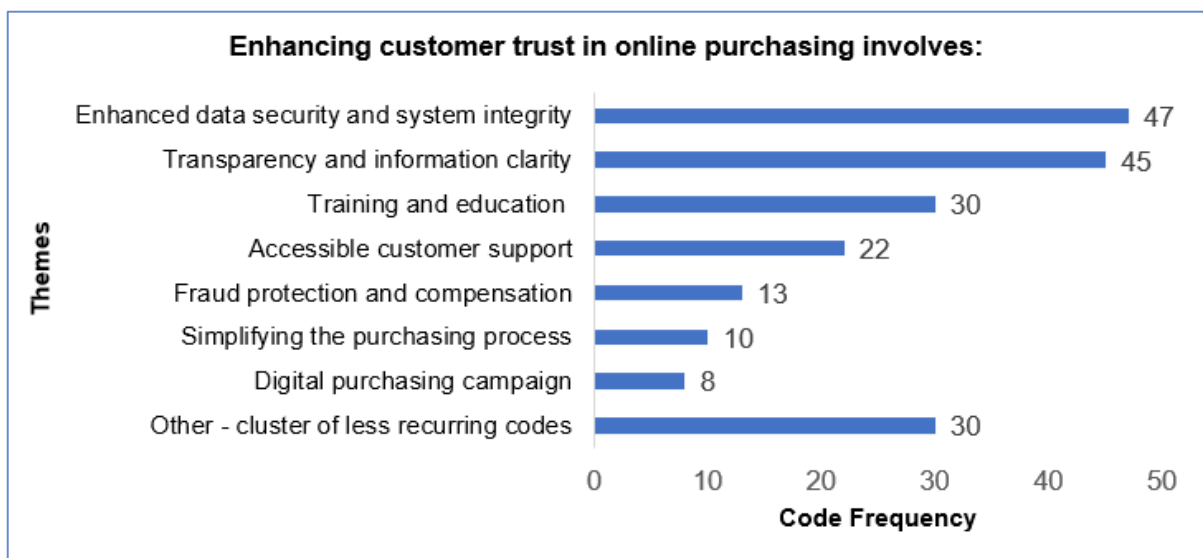


Figure 4.16: Boosting trust in retail banking online purchasing

4.11.3 Barriers and Drivers to Online Purchasing

The study sought to derive generalisable insights from a diverse participant pool by investigating the key drivers and barriers influencing online purchasing behaviour. This was achieved through the inclusion of this open-ended question:

"Please share your thoughts on what you believe would encourage you to purchase online, as well as what discourages you from purchasing online."

Through this question, the research aimed to capture a comprehensive understanding of both the motivating factors that prompt consumers to engage in online purchasing, as well as the obstacles that deter them from making such purchases. In other words, the open-ended question was designed to elicit a broad range of perspectives, encompassing both positive and negative influences on consumer behaviour. The following insights from respondents shed light on the perceived barriers and drivers to online purchasing.

R23: *"I will keep purchasing online if I feel that the Information available on the bank website was enough for me to make a decision."*

R86: *"Online chat. It hardly ever works when you have specific issue."*

R111: *“Information provided is not always clear and most times telephone banking agents are completely clueless so speaking to them is useless, so no help.”*

R117: *“Improved layouts and clearer information.”* | **R237:** *“Opening a joint account is difficult online.”*

R118: *“Unclear information and system errors have discouraged me from purchasing stuff online previously. High ratings are a big attraction for me.”*

R195: *“I would continue if it was safe, secure and continues to be easy and convenient. If it became unsafe and I was hacked that would discourage me.”*

A two-stage thematic analysis approach was employed to identify and categorise key topics, ultimately leading to the identification of recurring themes and underlying patterns. To ensure that support strategies could be tailored specifically to either online or offline consumers, the analysis was conducted in two phases: horizontally and vertically. The horizontal phase involved analysing the data separately for online and offline consumers, while the vertical phase further segmented the analysis by examining both the encouraging and discouraging factors for each consumer group. This comprehensive approach enabled a broader and deeper understanding of the distinct motivations and barriers faced by each segment, providing valuable insights for targeted interventions and strategies. The results of the analysis are presented below. Tables 4.21, 4.22, 4.23, and 4.24 show the discouraging factors for online consumers, discouraging factors for offline consumers, encouraging factors for online consumers, and encouraging factors for offline consumers, respectively.

Table 4.21: Discouraging factors for online consumers

What would discourage you from continuing to purchase online?		
OnBuyer Themes - Discouraging Factors	Count of Theme Codes	% of Total Count
Low brand trust, data breaches and unstable websites	31	32%
Fraud and security concerns	24	25%
Complex purchasing process	15	15%
Poor user interface and confusing information	11	11%
Delayed or lack of customer support	5	5%
Other - Lack of transparency	3	3%
Other - Chatbot	3	3%
Other - Limited options	1	1%
Other - Economic conditions	1	1%
Other - Confusing products	1	1%
Other - Inexperienced advisors	1	1%
Other - Bad reviews	1	1%
Grand Total	97	100%

Table 4.22: Discouraging factors for offline consumers

What discourages you from purchasing online?		
OffBuyer Themes - Discouraging Factors	Count of Theme Codes	% of Total Count
Fraud and security concerns	6	60%
Poor user interface and confusing information	3	30%
Economic concerns	1	10%
Grand Total	10	100%

Table 4.23: Encouraging factors for online consumers

What would encourage you to continue to purchase online?		
OnBuyers Themes - Encouraging Factors	Count of Theme Codes	% of Total Count
Convenience, speed and ease of use	56	28%
Incentives and online discounts	36	18%
Effective customer service Human support	25	13%
Clear information user-friendly websites & Apps	24	12%
Improved safety of online transactions	22	11%
Access to reviews & product comparisons	13	7%
Expanded product range & personalisation	13	7%
Other- Compensation publicity constant communication	8	4%
Grand Total	197	100%

Table 4.24: Encouraging factors for offline consumers

What would encourage you to purchase online?		
OffBuyer Themes - Encouraging Factors	Count of Theme Codes	% of Total Count
Convenience, speed and ease of use	11	38%
Improved safety of online transactions	5	17%
Incentives and online discounts	5	17%
Brand trust and reliability of websites	3	10%
Human support and interaction	3	10%
Awareness and education	2	7%
Grand Total	29	100%

Leveraging the advantages of qualitative data, this in-depth analysis of consumer behaviour has effectively complemented the quantitative findings obtained through hypothesis testing.

4.12 Bridging Quantitative and Qualitative Insights

The integration of qualitative data allowed consumers to express their key information needs, trust expectations, and the factors influencing their online purchasing decisions. These rich insights, which would not have been possible through quantitative data alone, provided a more detailed understanding of UK retail banking consumers, thereby strengthening the analysis and complementing the broad trends identified through statistical analysis.

This method is particularly valuable in exploring the multifaceted nature of consumer behaviour and trust in digital environments. An approach called “within-stage mixed model design” (Johnson and Onwuegbuzie, 2004). Research consistently shows that mixed methods approach offers better understanding of complex topics, with quantitative data providing broad patterns and qualitative insights offering deeper, contextual explanations (Reja *et al.*, 2003; Creswell, 2009; Bhattacharjee, 2012; Komildjanovna, 2024).

The quantitative analysis reveals that younger consumers place greater importance on perceived information, while older consumers prioritise perceived trust. Additionally, male consumers demonstrate a stronger overall influence on online purchase intention. The findings from qualitative analysis highlight the critical need for security and safety information, as well as information that facilitates direct communication with customer advisors. A significant barrier to online purchasing is the difficulty many

respondents face in comprehending the information presented on bank websites. Conversely, key drivers of online purchasing include factors influencing effort expectancy, price value, facilitating conditions, perceived information and perceived trust.

4.13 Chapter Summary

This chapter provided a detailed and comprehensive overview of the data analysis processes and the outcomes of both statistical tests and thematic analyses. It began by outlining the objectives of the analysis, the tools and methods employed, and the steps taken to screen and clean the data to ensure its reliability and validity. The demographics section presented a detailed profile and the key characteristics of the study participants. This was complemented by the descriptive statistics, which summarised the general trends in the data. Furthermore, an analysis of the participants' online behaviour explored the frequency and extent of their engagement with digital platforms, providing context for the subsequent evaluations that followed.

Statistical analysis was conducted using PLS-SEM to assess relationships between variables. This process began with the evaluation of the measurement model for internal consistency, convergent validity, discriminant validity, and overall model fit. It was followed by the structural model assessment and hypothesis testing. Further analyses were performed using multi-group analysis with five moderating variables. This investigated subgroup differences in the data through comparisons using two-group classifications and further exploration with three-group classifications while addressing the limitations inherent in the latter approach due to sample size constraints. Additional analysis was conducted using SPSS and Excel to examine specific aspects such as consumer information needs, preferred information sources, and the reasoning behind these preferences.

Thematic analysis was carried out on the qualitative data collected through open-ended questions, providing rich insights into consumers' information needs, trust concerns, and the barriers and drivers influencing their online purchasing decisions. Finally, the chapter concluded by emphasising the significance and findings from both qualitative and quantitative analysis methods, resulting in a well-rounded analysis. This integrated approach strengthened the research findings. The next chapter presents

the findings derived from these analyses along with follow-up discussions on the results.

CHAPTER 5: FINDINGS AND DISCUSSION

5.1 Chapter Overview

This chapter presents the findings from the analyses results conducted in the previous chapter and provides a discussion that connects these findings to existing literature. It begins with an overview of the research aim and objectives, which led to the formulation of the research questions and hypotheses, guided by the research pathway. The chapter then explores the key findings, relating each to the corresponding research question and/or hypothesis, followed by an interpretation and discussion of each of these findings. Finally, the chapter concludes by summarising all key points covered and highlighting the points discussed in the concluding chapter.

5.2 Overview of Research Aim, Questions and Objectives

This section serves as a reminder of the research objectives and subsequent research questions that served as the basis for this study. The aim of the research was to understand the factors influencing UK retail banking customers' acceptance of online purchasing, their pre-purchase information seeking behaviour, and the drivers and barriers to online purchasing. Driven by this aim, the research questions were crafted to delve into specific components of the aim, enabling a structured and targeted approach. Each question was closely tied to the objectives, ensuring clarity and purpose in guiding the development of hypotheses and the overall research design. This overview provides context for understanding how the findings connect to the broader scope of the research. Table 5.1 presents these three key elements, which collectively serve as the research pathway.

Table 5.1: The research pathway

Research Aim	Research Questions	Research Objectives	Theoretical Foundation
To enhance the experiences of UK retail banking customers by understanding the factors influencing acceptance of online purchasing, their pre-purchase information seeking behaviour, and the drivers and barriers to online purchasing.	RQ1. What are the information needs of UK retail banking customers before engaging in online purchasing?	To understand the types of information sought by UK retail banking customers leading to the initiation of a purchasing agreement.	Problem-Specific ELIS Model (Savolainen, 1995)
	RQ2a. What are the preferred primary information sources used by UK retail banking customers before engaging in online purchasing?	To identify the information sources preferred by UK retail banking customers.	Problem-Specific ELIS Model (Savolainen, 1995, 2008)
	RQ2b. What are the reasons and considerations behind the choice of primary information sources?	To gain insights into the factors that influence UK retail banking customers' choice of information sources and channels in the context of the theories and models of information behaviour.	Problem-Specific ELIS Model (Savolainen, 1995, 2008)
	RQ3. What factors motivate UK retail banking customers' acceptance of online purchasing based on the proposed research model?	To identify and highlight the factors that motivate UK retail banking customers' choice of online purchasing by determining the critical elements that positively impact online purchase intention.	UTAUT2 Model (Venkatesh et al. 2012)
		To empirically authenticate the study framework (Integrated UTAUT2) against the acceptance of online purchasing within UK retail banking.	
		To gain insights into the difficulties, experiences and expectations of UK retail banking customers when purchasing online.	Literature Review Additional survey questions

	RQ4. How can UK retail banking institutions increase customers' trust towards the acceptance of online purchasing?	To understand, from customers' perspectives, how UK retail banking institutions can enhance trust in online purchasing.	Literature Review Additional survey questions
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5.3 Key Findings and Discussion

Based on the analysis conducted in the preceding chapter, the research objectives have been achieved, and the research questions and hypotheses have been thoroughly explored and answered. This section presents the key findings corresponding to each research question and integrates the findings with a discussion of their relevance within the framework of the study objectives and the broader academic literature. Some findings are primarily based on quantitative data, others combine both quantitative and qualitative insights to provide a comprehensive perspective on the research questions under investigation.

5.3.1 UK Retail Banking Consumers' Information Needs

RQ1. What are the information needs of UK retail banking customers before engaging in online purchasing?

Quantitative Findings

This research question was addressed using both quantitative and qualitative insights. Participants were asked to prioritise their most pressing information needs from a predefined set, which included product information, price information, brand information and post-sales support information. The findings show that both online and offline consumers ranked price information as their top priority. This was followed by product information for online consumers and brand information for offline consumers. Notably, 87% of respondents were online consumers who purchased their banking products online, while the remaining 13% purchased their products in branches.

Consistent with the qualitative findings, price and product information emerged as top information needs. Price information encompasses charges, fees, costs of borrowing and lending, as well as the total costs associated with acquiring a particular product. However, a limitation of the quantitative approach is that the survey was restricted to four predefined categories of information needs, unlike open-ended questions that allow for additional input. To address this limitation, the research incorporated open-

ended responses, which provided the additional insights discussed in the following subsection.

Qualitative Findings from Open-ended Survey Questions

Additional insights emerged from the analysis of qualitative data gathered from open-ended questions. The findings revealed that the information needs of UK retail banking consumers could be categorised into two. The need for new information and enhancements or refinements to existing information and its presentation. These insights were conceptualized into an information requirements map (Figure 5.1), which highlights the current information gap.

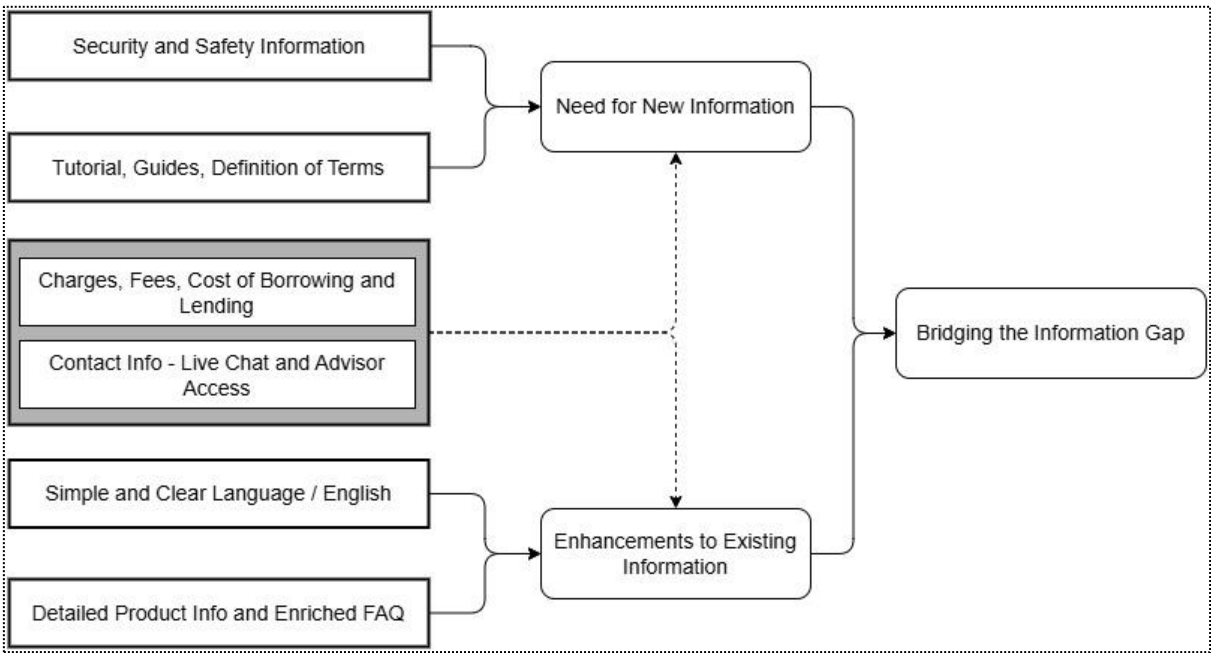


Figure 5.1: Information requirements map

In the map, new information includes additional or enriching existing content, while enhancements involve clarifying existing information, ensuring that information is tailored to the understanding of various consumer groups and not only those with high financial literacy. This also includes providing detailed product information and enhancing the Frequently Asked Questions (FAQ) sections. The grey rectangle illustrates a zone where content could either fall under new information requirements or be considered an improvement to existing information, depending on the existing content and how consumers interpret it.

The top meta-themes identified guided the findings which indicate a strong need for

security and safety information. Additionally, there is need for live chat support information and enabling direct communication with advisors and customer support. A notable proportion of respondents also reported challenges in understanding the information available on bank websites. As discussed in the previous chapter, which included direct quotes from respondents, key areas of concern include the need to use simple English on bank websites and clearer explanations of key financial terms to improve understanding.

Discussion

The findings from this study corroborate with previous research that identified fear as an inhibiting factor in online financial transactions within the UK population (Hanif and Lallie, 2021; Thomas, Chowdhury and Ruthven, 2023). Similarly, Hanif *et al.* (2022), using the UTAUT2 model to investigate the drivers and barriers to mobile shopping among older adults in the UK, identified perceived cybersecurity trust as a significant barrier to adoption.

Additionally, this study reinforces the critical need for improvements to the information provided by retail banks on their websites, particularly in clarifying financial terms and clarity around fees and charges. Despite most respondents being mid-career professionals living in urban areas, many reported difficulties understanding financial terminology. This aligns with the findings of Hui and Dan (2024), who argue that financial English is inherently professional and practical, making clear explanations essential. Similarly, Lusardi (2019) highlights that even in highly developed economies with sophisticated financial markets, financial literacy remains low. Additionally, a recent study by Thomas, Chowdhury and Ruthven (2023) identified a lack of experience and knowledge as a significant barrier to older adults' use of financial services in the UK. Together, these findings highlight the importance of providing financial information that is not only accessible but also clear and easy to understand.

The demographic characteristics of respondents assessed included their online behaviour across various activities. The results indicate that most respondents are actively engaged in other forms of online transactions, reflecting a high level of online presence. Even among the 13% of respondents who purchased banking products offline, there was active engagement in other online activities, such as purchase of household products, travel tickets and online information seeking. Notably, 84% of

respondents self-identified as having financial knowledge, yet many of these individuals highlighted challenges in comprehending the information presented on bank websites.

The lack of clarity and understanding of available information may explain why some respondents expressed a need for tools such as live chat support and quick access to advisors. This highlights the importance of ensuring that front-line staff are well-trained and adequately equipped to assist customers. Similar gaps were identified in previous studies on UK banking by Giannakis, Harker and Baum (2015), who emphasised the critical role of staff training and development in enhancing their ability to support customers effectively. Their findings aligned with those of an earlier study by Nussbaumer *et al.* (2009) which collected data through mystery shopping, conducting consultation with twelve retail banks in Switzerland, Austria and Germany. The authors found that financial advisers have limited understanding of financial services products.

With the increasing number of bank branch closures in the UK, these findings underscore the urgent need for banks to address existing information gaps, particularly as digital platforms become primary sources of customer information. This aligns with insights from Santo and Marques (2022), who investigated the impact of consumers' hedonic motivations, pricing, access to information, and trust on online purchase intention in Portugal. Their study revealed that access to online information significantly influence consumers' willingness to continue engaging in online shopping.

5.3.2 Preferred Information Sources and Selection Reasons

RQ2a. What are the preferred primary information sources used by UK retail banking customers before engaging in online purchasing?

RQ2b. What are the reasons and considerations behind the choice of primary information sources?

Findings: Preferred Information Sources

The above research questions (RQ2a and RQ2b) were explored through quantitative analysis, and the results presented in the previous chapter, sections 4.10.2 and 4.10.3 respectively. The findings on preferred information sources revealed that visiting bank branches remains the most preferred source of information among respondents. This

preference draws attention to the enduring importance of face-to-face interactions in building trust and ensuring clarity in financial decision-making, particularly in an industry where personalised guidance is highly valued. Despite the increasing digitization of financial services, the physical presence of bank branches continues to hold significant appeal for many consumers, especially for those consumers seeking tailored advice or resolving complex issues.

The second most preferred source of information was online aggregators, such as www.moneysupermarket.com, www.gocompare.com, and other similar platforms operating within the UK market. These platforms have gained prominence due to their ability to provide consumers with a comprehensive overview of various financial products from various banks and other financial services providers all in a single platform. Such aggregation enables easier comparison of pricing, features and benefits. The convenience, accessibility and ability to present side-by-side comparisons make these platforms particularly attractive to digitally savvy consumers looking to streamline their decision-making processes, in this context, supporting their decision to purchase online.

Advice from personal networks, including family, friends and colleagues, ranked third in preference among respondents. Consumers often rely on trusted individuals within their social circles for recommendations or reassurance, especially when faced with unfamiliar or complex financial products. This reliance highlights the significance of interpersonal trust, and the value placed on shared experiences when making financial decisions. Several studies have highlighted the critical role of interpersonal trust in financial behaviour (Wu, Quyen and Rivas, 2017; Zhang and Chen, 2018; Becchetti, Manfredonia and Pisani, 2022). In this study, respondents demonstrated this trust by seeking advice, making joint financial decisions and depending on recommendations from their family and personal networks.

Together, these findings illustrate the diverse ways consumers seek information in the UK financial market, highlighting the interplay between traditional, digital and social channels in supporting the decision to purchase online. Although most respondents purchased their products and services online, the choice of information sources indicates that retail banking customers still heavily rely on human support during their purchasing journey. The results from the previous chapter show that relatively few

consumers consider retail banking websites as their primary source of information. This then aligns with the identified need for a more detailed, simpler and clearer information on bank websites to encourage consumers to use this information source and also support seamless transition to a more digitally inclusive service model.

Interestingly, talking to financial advisors and consultants was not the top choice for respondents, possibly due to a lack of trust or confidence in their expertise. A related study by Nussbaumer *et al.* (2009) found that participants criticised advisors for being passive, inexperienced and lacking in-depth knowledge of financial products. This, in some cases, led to the perception that advisors took advantage of less informed customers.

Findings: Source Selection Reasons

An in-depth analysis of the factors influencing consumers' selection of information sources, based on the five criteria outlined in the survey, revealed quick access to information and reliability of information as the most significant determinants for consumers' choice of information sources. Quick access ensures that consumers obtain the information they need without unnecessary delays, especially in such a quickly changing market. Reliability fosters confidence in the information being used to make purchasing decisions. Similar findings have also been noted in previous related studies (Savolainen, 2010b; Vaaler, Reiter and Faulkner, 2021). These findings emphasise the critical role of speed, convenience and trustworthiness in shaping consumer behaviours.

The findings support the importance of designing streamlined, efficient customer journey which prioritise reducing the time and effort required in accessing product and pricing information. Additionally, in an era where misinformation is prevalent (Wardle and Derakhshan, 2018; Pennington, 2019), the ability to discern credible sources becomes paramount. The trustworthiness of the information in terms of accuracy, transparency, and credibility plays a pivotal role in consumers' decision-making processes. These two factors illustrate how consumers weigh the practical ease of obtaining information alongside its perceived reliability when determining which sources to use prior to the purchasing of consumer banking products online.

Discussion

The findings from this study provide valuable insights into consumer preferences for information sources and the reasons behind their choices. These findings shed light on how UK retail banking customers navigate their decision-making processes when purchasing online. The analysis revealed a clear preference for visiting bank branches first, followed by online aggregators and personal networks. This preference for branch visits may be attributed to the nature of financial products. Financial products often involve significant risk and long-term implications, necessitating thorough decision-making processes and personalised advice, which digital channels may not always provide (Perry and Morris, 2005).

Information sources are critical to purchasing decisions as they play a central role in shaping a consumer's understanding, evaluation and confidence when making choices. Accurate and relevant information reduces uncertainty and enables informed decisions, especially for complex or high-value purchases such as financial products (Akalamkam and Mitra, 2018). This need for deliberate decision-making through quick access to reliable information aligns with the preference of respondents highlighting branch visits as primary information source. Taurisano (2017) notes that even in highly digitally advanced countries, bank branch visits remain a preferred option for certain financial transactions. It is reasonable to assume that the impact of Covid-19 may have altered this narrative; however, even with advancements in digital banking, the continued reliance on physical branches highlights the importance consumers place on personalised interactions and the trust they associate with face-to-face consultations.

PwC Financial Services (2018) corroborates these findings, indicating that branches continue to play a critical role for specific transactions. Similarly, findings from McKinsey & Company (2017) highlighted that low-trust customers and low-tech seniors tend to prefer traditional branch visits, as these interactions provide reassurance, clarity and help in building confidence for complex decisions. Quick access and the reliability of information was noted as the reasons behind the choice of information sources. Detlor, Sproule and Gupta (2003) and Frambach, Roest and Krishnan (2007) in their respective studies, also stressed the importance of quick access to information, convenience in pre-purchase information seeking and consumers' channel

preferences respectively. Reflecting on the previous section on information needs, a notable emphasis was placed on the lack of clarity on information provided by banks on their websites. This ambiguity is likely to influence preferences for information sources and channels.

Bank websites as an information source was not rated among the three preferred primary information sources, favouring online aggregator platforms and social relationships instead. This preference may result from the perceived lack of clarity in website information and low trust in financial advisors. This gap was previously highlighted by Nussbaumer *et al.* (2009). In their work, the researchers found that financial advisory services received low ratings. Advisors were characterised as passive, lacking experience and a thorough understanding of financial products, and at times seen as exploiting uninformed customers.

The findings of this study indicate a clear opportunity to improve retail banking websites, financial advisory services, and internet search engines to make them more appealing and effective as information sources, thus supporting a smoother transition to digital purchasing. Building trust in banking institutions will also be critical to encouraging the use of digital channels as information sources. Santo and Marques (2022) suggest that online seller-created information builds trust in the context of online shopping. Reliability of information was another driver identified for choosing specific information sources, aligning with findings from McKinsey & Company (2017) which highlighted that low trust and less tech-savvy individuals still have preferences for branch visits.

Additionally, banks can explore a hybrid or multi-channel approach allowing consumers to switch between online and offline channels depending on the stage in the purchasing journey. Graupner *et al.* (2015) in their work on the impact of information requirements on digital process adoption in retail banking supports this strategy. The authors suggest that financial institutions could fulfil initial information needs in branches while enabling customers to continue their journey via digital channels or vice versa. In conclusion, these findings highlight the growing importance of improving digital information channels by addressing gaps in information clarity, access, reliability and trust. This will create an ecosystem that supports consumer confidence across both digital and physical channels.

5.3.3 Model Variables Influencing Online Purchasing

RQ3. What factors motivate UK retail banking customers' acceptance of online purchasing based on the proposed research model?

This subsection reports the findings from the results on the key variables within the research model that shape customers' online purchase intention. The initial phase of analysis evaluated the research model by separately testing data from online and offline consumers using distinct models. This was to ensure that the entire model variables including the UTAUT2 variables were applied only to online consumers while the two newly introduced variables were applied to offline consumers. As stated earlier, the UTAUT2 variables can only be justly applied to consumers who have used the technology.

In the second phase of testing the model, multi-group analysis was applied to the entire dataset testing the impact of the two new constructs of the model while observing the moderating effects of age, gender, experience, location and income. Details are provided in Table 5.2. Below is a summary of the hypotheses and outcomes discussed in the previous chapter on results. A total of 18 hypotheses were formulated, with eight tested without moderating effects and ten focusing on the two new constructs of the research model, moderated by the five variables outlined above. A total of eleven hypotheses were supported, while seven were rejected. However, all constructs showed a positive regression weight, indicating a positive influence on online purchase intention.

Table 5.2: Recap of hypotheses and outcomes

ID	Hypotheses	Outcome
H1	Performance Expectancy (PE) will positively influence consumers' intention to purchase banking products online.	Supported
H2	Effort Expectancy (EE) will positively influence consumers' intention to purchase banking products online.	Not Supported
H3	Social Influence (SI) will positively influence consumers' intention to purchase banking products online.	Not Supported

H4	Facilitating Conditions (FC) will positively influence consumers' intention to purchase banking products online.	Not Supported
H5	Price Value (PV) will positively influence consumers' intention to purchase banking products online.	Supported
H6	The Habit (HT) of online shopping will positively influence consumers' intention to purchase banking products online.	Supported
H7	Perceived Trust (PT) will positively influence consumers' intention to purchase banking products online.	Online Buyer: Not Supported Offline Buyer: Supported
H8	Perceived Information (PI) will positively influence consumers' intention to purchase banking products online.	Online Buyer: Not Supported Offline Buyer: Partially Supported
<p style="text-align: center;">Multi Group Analysis</p> <p style="text-align: center;">Moderators: Age, Gender, Internet Experience, Location (New) and Income (New)</p> <p style="text-align: center;">New Constructs: Perceived Information (PI) and Perceived Trust (PT)</p>		
H9	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.	Supported
H10	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on younger customers than on older customers.	Not Supported
H11	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.	Not Supported
H12	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on male customers than on female customers.	Supported
H13	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.	Supported
H14	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on less experienced internet users than on more experienced internet users.	Supported

H15	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.	Not Supported
H16	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on urban resident customers than on rural resident customers.	Supported
H17	The relationship between Perceived Information (PI) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).	Supported
H18	The relationship between Perceived Trust (PT) and Online Purchase Intention (OPI) will be stronger on low-income customers (at minimum wage) than on high-income customers (above minimum wage).	Supported

Research highlights the value of learning through the creation of diagrams, rather than simply interpreting existing ones. While learners are often encouraged to study and analyse visuals, they are less frequently guided in developing their own diagrams, a process that deepens understanding and enhances knowledge construction (Maries and Singh, 2012). Creating diagrams actively engages learners, helping them conceptualize and solidify their understanding of complex phenomena (Ainsworth, Prain and Tytler, 2011; Liu, Won and Treagust, 2014; Tippett, 2016).

In addition, previous studies have identified diagramming as a reflective tool (Attard *et al.*, 2017). Visuals not only enhance engagement but also ensure clarity, enabling readers to grasp intricate details more quickly while allowing researchers to convey their findings effectively (Mayer, 2014). Diagramming facilitates the organization and management of data, making it easier to analyse, manage and present information and concepts in an intuitive and easily digestible format (Susac *et al.*, 2019). Accordingly, the hypotheses outcomes presented above have been conceptualized and visually represented in Figures 5.2 and 5.3 below.

5.3.3.1 Hypotheses Testing - Direct Effects

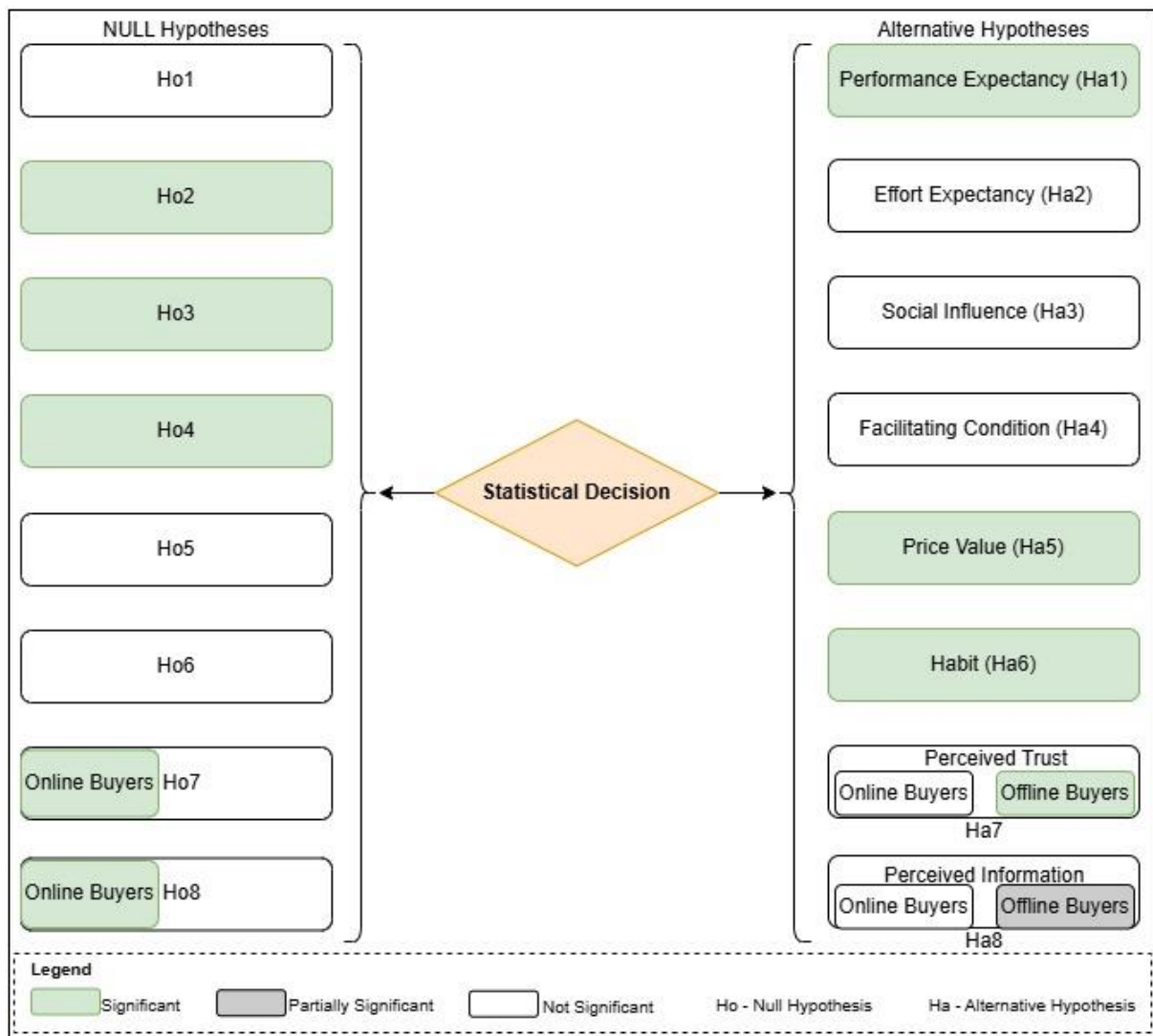


Figure 5.2: Statistical findings with no moderation effects

The Relationship Between Performance Expectancy and Online Purchase Intention

Performance Expectancy (PE) represents the extent to which consumers believe that purchasing retail banking products online will enhance their buying experience. This improvement could manifest in various ways, such as increased convenience, time savings, access to a wider range of products, personalised recommendations, or a more streamlined purchasing process. PE reflects consumers' expectations that purchasing online will make the task more efficient and effective compared to traditional branch visits.

Findings show that PE is positively associated with consumers' intention to purchase banking products and services online. This is consistent with the results of the qualitative study which will be discussed later in this section. It examined the drivers and barriers to online purchasing and findings indicate that convenience, streamlined purchasing process and access to a wider product range and personalisation are key drivers to online purchase adoption. Venkatesh *et al.* (2003) in their initial model, found PE to be the most significant predictor of intention, demonstrating a strong influence on behavioural intention.

Additionally, Tarhini *et al.* (2021) examined the factors influencing online shopping adoption in the UK by integrating UTAUT and the DeLone-McLean information systems success model, including the constructs of trust, product variety and product guarantee. The researchers found PE to have a positive influence on online shopping adoption. Numerous other studies have found PE to have positive influence on purchase intentions (Ingham, Cadieux and Berrada, 2015; Pascual-Miguel, Agudo-Peregrina and Chaparro-Peláez, 2015)

The Relationship Between Effort Expectancy and Online Purchase Intention

Effort Expectancy (EE) refers to the degree to which consumers believe that purchasing online will be easy and require minimal effort. In the context of online purchasing of consumer banking products, EE reflects how consumers perceive the ease of navigating bank websites, understanding the information presented and completing purchases. Consumers expect the platform and layout of the contents to be user-friendly and not difficult to navigate, which can positively influence their intention to purchase online.

This study did not find a significant direct relationship between effort expectancy (EE) and online purchase intention. This could be attributed to the prioritisation of other factors. Earlier qualitative findings revealed that consumers prioritise privacy, safety, and security of online platforms before considering other aspects. This suggests that consumers are willing to purchase through retail banking websites if other conditions are met, such as the convenience of online shopping, as explained by PE, and the security of the platform.

The findings did not support the hypothesised relationship and differ from the findings from the original UTAUT2 model proposed by Venkatesh, Thong, and Xu (2012), which identified EE as a significant predictor. However, this application is in a different domain, and similar results have been reported in other related studies where no positive relationship have been found between effort expectancy and behavioural intention (Moura *et al.*, 2017; Hanif and Lallie, 2021; Erjavec and Manfreda, 2022).

The Relationship Between Social Influence and Online Purchase Intention

Social Influence (SI) refers to the extent to which an individual's decision to adopt online purchasing of financial banking products or services is shaped by the opinions, behaviours, or perceived expectations of others. In the context of this research, social influence reflects how family, friends, colleagues, peers or societal norms affect a consumer's intention to purchase online. If a consumer perceives that people important to them approve of or recommend using a specific technology, they are more likely to adopt it. Social influence can be particularly impactful in situations where trust or unfamiliarity with the technology is a concern, as the endorsement by others can reduce perceived risks or uncertainties.

The results show that SI is not significantly linked to online purchase intention. While this finding contradicts the propositions of the UTAUT2 model, it aligns with some existing studies. For example, studies by Chong, Chan and Ooi (2012), Ingham, Cadieux and Berrada (2015) identified SI as a predictor of online purchase intention. However, some studies found SI to have minimal or no impact on online purchase behaviour, particularly among older adults (Asmi and Ishaya, 2012; Oliveira *et al.*, 2014; Arenas-Gaitán, Peral-Peral and Ramón-Jerónimo, 2015; Thusi and Maduku, 2020).

Most participants in this study are young and middle-aged adults, predominantly between 21–40 years old. While one might expect social influence to affect their online purchasing behaviour, it appears to have little significance for this demographic. This could be attributed to the high digital literacy within this age group, with many respondents reporting over ten years of internet experience and strong financial literacy. These factors likely make participants comfortable seeking information from various digital sources rather than relying on their immediate social circles. Additionally, individuals in this age group often lead busy lifestyles, viewing social

networks more as platforms for connection and entertainment than tools for making financial decisions. Qualitative analysis of the open-ended questions further supports this finding, showing that bank branches are the most preferred primary source of information, with social relationships ranking third. This suggests that for participants in this age group, when it comes to financial products and services, social influence plays a less critical role in shaping online purchase intentions.

The Relationship Between Facilitating Condition and Online Purchase Intention

Facilitating Conditions (FC) in the context of online purchasing of banking products and services refer to the external resources and support including infrastructure that enable consumers to engage seamlessly with the online platforms. This includes access to reliable internet connections, computers, user-friendly interfaces and the technical support provided by the banking institutions. In essence, facilitating conditions represent the extent to which the technological and environmental setup supports consumers in navigating the platform, completing purchases and resolving any issues that may arise. For example, access to 24/7 customer service and ensuring that users face minimal barriers while purchasing banking products and services online.

Though as all other constructs of the model, FC has a positive regression weight, the results indicate that FC do not have a significant relationship with online purchase intention. These findings contradict the UTAUT2 model, though applied in a different context. The findings also partly conflict with while also aligning with certain aspects of the qualitative findings of this study on the barriers and drivers to online purchasing. The qualitative findings highlight access to customer services, a streamlined purchasing process, clear pricing information and a user-friendly interface as key drivers. However, in the quantitative study, because FC was not examined independently but rather in combination with seven other factors, it is likely that the influence of other factors, such as price value, trust and performance expectancy, may have taken precedence over facilitating conditions. In the study, performance expectancy, price value, perceived trust and perceived information have shown to have some influence on purchase intention.

Some related studies have replaced FC with other constructs, suggesting that factors such as trust, convenience, product variety, service quality, and effort expectancy are more beneficial to consumers in the context of online shopping (Tarhini *et al.*, 2021).

Additionally, most respondents in this study reported both high internet literacy and high financial literacy. Experienced internet users and financially literate individuals are less likely to perceive facilitating conditions as a barrier. Previous research has also shown that FC plays a stronger role on adoption rather than influencing behavioural intention. For instance, in a related study on mobile banking adoption, Oliveira *et al.* (2014) found FC and behavioural intention to directly influence adoption. On the contrary, Wu, Lee and Tian (2021) applied an integrated model, albeit in a tourist context, to investigate the acceptance of cross-border mobile payments in Korea and found that FC had a direct influence on the intention to use. This suggests that the impact of FC on intention may be influenced by other factors within the model, as well as the specific research context.

The Relationship Between Price Value and Online Purchase Intention

Price Value (PV) refers to consumers' perception of the trade-off between the benefits gained from purchasing banking products and services online and the monetary costs associated with using the technology, such as equipment costs, transaction fees and internet costs. PV reflects how customers evaluate whether the financial expense of purchasing online is justified by the value received. Perceived benefits will include rewards and discounts offered online, convenience, easy price comparisons, time savings and the positive environmental impacts.

The results indicate that PV is positively associated with online purchase intention, consistent with previous research on technology adoption (Venkatesh, Thong and Xu, 2012; Chong and Ngai, 2013; Tak and Panwar, 2017; Nuriska, Asakdiyah and Setyawan, 2018; Soodan and Rana, 2020). These findings emphasise the importance consumers place on cost-effective solutions. Notably, over 80% of respondents reported purchasing online, suggesting they possess at least basic financial and digital literacy as well as a clear understanding of the benefits, which influenced their purchasing decisions. Furthermore, the widespread availability of devices and the decreasing cost of internet connectivity may have increased the significance of PV. This finding suggests that, when making financial decisions, consumers prioritise value for money over other factors such as EE, SI, and FC. This observation aligns with that of Al-Debei, Akroush and Ashouri (2015). The authors state that consumers' perceived usefulness of online shopping, particularly the convenience of purchasing products and

services anytime and anywhere, as well as the reduction in time, effort and costs, serve as a key driver of online purchasing behaviour.

The Relationship Between Habit and Online Purchase Intention

Habit (HB) refers to the degree to which consumers' repeated and familiar interactions with online platforms influence their future usage intentions. It reflects the extent to which online purchasing behaviour becomes automatic or routine, requiring minimal conscious effort. HB indicates how deeply integrated the use of online platforms is in consumers' daily lives thereby driving their online purchase intentions. The results indicate that HB has a positive influence on online purchase intention. This finding is consistent with the notion that habitual usage leads to stronger intentions to continue engaging with online platforms, particularly when combined with positive past experiences.

In the original UTAUT2 model, habit has an indirect influence on behavioural intention and a direct influence on use behaviour. Previous studies, such as those by Escobar-Rodríguez and Carvajal-Trujillo (2014), Alalwan *et al.* (2015), Macedo (2017), Singh and Matsui (2017), Nuriska, Asakdiyah and Setyawan (2018) and Hutami and Maharani (2021) emphasise the importance of habit in understanding users' acceptance of new technologies. Habit reduces the perceived effort of online purchasing, thereby influencing intention more significantly than factors like effort expectancy and facilitating conditions.

In the context of online purchasing of banking products and services, the positive influence of habit suggests that consumers who frequently use online banking platforms are more likely to continue using them for future purchases, as perceived barriers decrease. Additionally, Part 1B of the survey included ten questions assessing participants' online behaviour primarily focusing on non-financial products, which provided insights into potential variations in behaviour between financial and non-financial products. The findings revealed strong online engagement across both online and offline consumers, which likely contributed to the significance of habit in influencing online purchase intention.

The Relationship Between Perceived Trust and Online Purchase Intention

Trust represents the degree of confidence consumers place in the reliability, integrity and reputation of a firm, particularly in its ability to meet their expectations (Al-Debei, Akroush and Ashouri, 2015; Bilgihan, 2016). Consistent with this definition, the construct of Perceived Trust (PT) refers to the degree to which consumers' trust in the banking institutions and the digital platforms affects their intention to purchase online. This positions consumers as trustors and the institutions as trustees.

PT was measured separately using two different models for online and offline consumers. PT was found to significantly influence online purchase intention for offline consumers. However, for online consumers, while PT had a positive influence on intention, it was not found to have a statistically significant impact on online purchase intention. The former corroborates with the finding of Wu, Lee and Tian (2021) on "Intention to use cross-border mobile payments in Korea," while the latter is consistent with the results from Slade *et al.* (2015) in their research on "Modelling consumers' adoption intention of remote mobile payments in the UK." Similarly, Singh and Sinha (2020) found that the influence of perceived trust as a mediator on perceived usefulness was small yet statistically significant. Numerous studies have identified a positive relationship between trust and consumers' behavioural intention to engage in online purchasing or adopt online services (Merhi, Hone and Tarhini, 2019; Rehman *et al.*, 2019; Rahman *et al.*, 2020; Retnowati and Mardikaningsih, 2021).

Possible reasons for the differences in the results of PT between offline and online consumers could be that online consumers may have already established trust in digital platforms through previous usage and purchases. This familiarity with the online process might reduce the need for additional trust-building factors. On the other hand, offline consumers may place greater emphasis on trust due to their comfort with physical interactions. For this group, the physical presence of the bank and personal interactions with branch representatives provide a stronger sense of security. Additionally, the absence of moderating variables could also influence the perception of trust. Later in this section, the influence of PT on both online and offline consumers, along with the moderating effects of other variables is discussed.

The Relationship Between Perceived Information and Online Purchase Intention

In this research context, Perceived Information (PI) refers to the degree to which consumers believe that the information available to them on retail banking websites about a product or service affects their intention to purchase online. PI encompasses factors such as the ease of finding product information, its reliability and clarity and whether it can be understood without requiring additional assistance from an advisor. It also encompasses the level of trust consumers place in the information provided.

Findings from the study reveal that PI positively influences online purchase intention for both online and offline consumers. However, this impact is not statistically significant for online consumers. For offline consumers, the p-value of 0.063 does not meet the strict threshold for significance. Nonetheless, with a limited sample size of 49 respondents, this result provides partial evidence of support, as the smaller sample size may lack sufficient power to detect an existing effect. It is possible that a larger sample size for offline consumers could yield a smaller p-value and stronger evidence of significance. Based on these considerations, the result for offline consumers is interpreted as partially significant. Further statistical tests on PI and PT are conducted through multi-group analysis, with findings reported in the next section to provide deeper insights.

For offline consumers, these findings align with those of Chaturvedi, Gupta and Hada (2016), who emphasised that information plays a role in online purchasing behaviour, albeit with less impact compared to trust. In contrast, Santo and Marques (2022) argues that access to accurate and complete information fosters trust and strengthens purchase intention. However, online consumers, already familiar with banking products and services, may rely less on information provided by retail banking websites. This is consistent with Chauhan, Yadav and Choudhary (2022), who found that security information does not influence e-banking adoption in India. Additionally, online consumers often utilise a variety of alternative information sources, such as social media or comparison platforms, further reducing the significance of bank-provided information in shaping their purchase intentions. For this group, factors like ease of use and convenience may take precedence over the availability of product information. Though based on findings from Vasić, Kilibarda and Kaurin (2019), customers' satisfaction in online shopping is directly influenced by factors such as access to information among others. Likewise, some early researchers believe that information

plays a fundamental role in consumer decision-making. This was emphasised in John Howard’s influential buyer behaviour model, which identifies information as the initial and essential input in the purchasing process (Malter *et al.*, 2020).

The next section presents the findings from the multi-group analysis, which explores how demographic and experiential factors of age, gender, experience, location and income moderate the effects of perceived trust and perceived information on online purchase intention. These analyses provide deeper insights into variations in consumer behaviour across different segments, offering a clearer understanding of the role of trust and information in shaping online purchase decisions.

5.3.3.2 Hypotheses Testing - Moderated Effects with Multi-Group Analysis

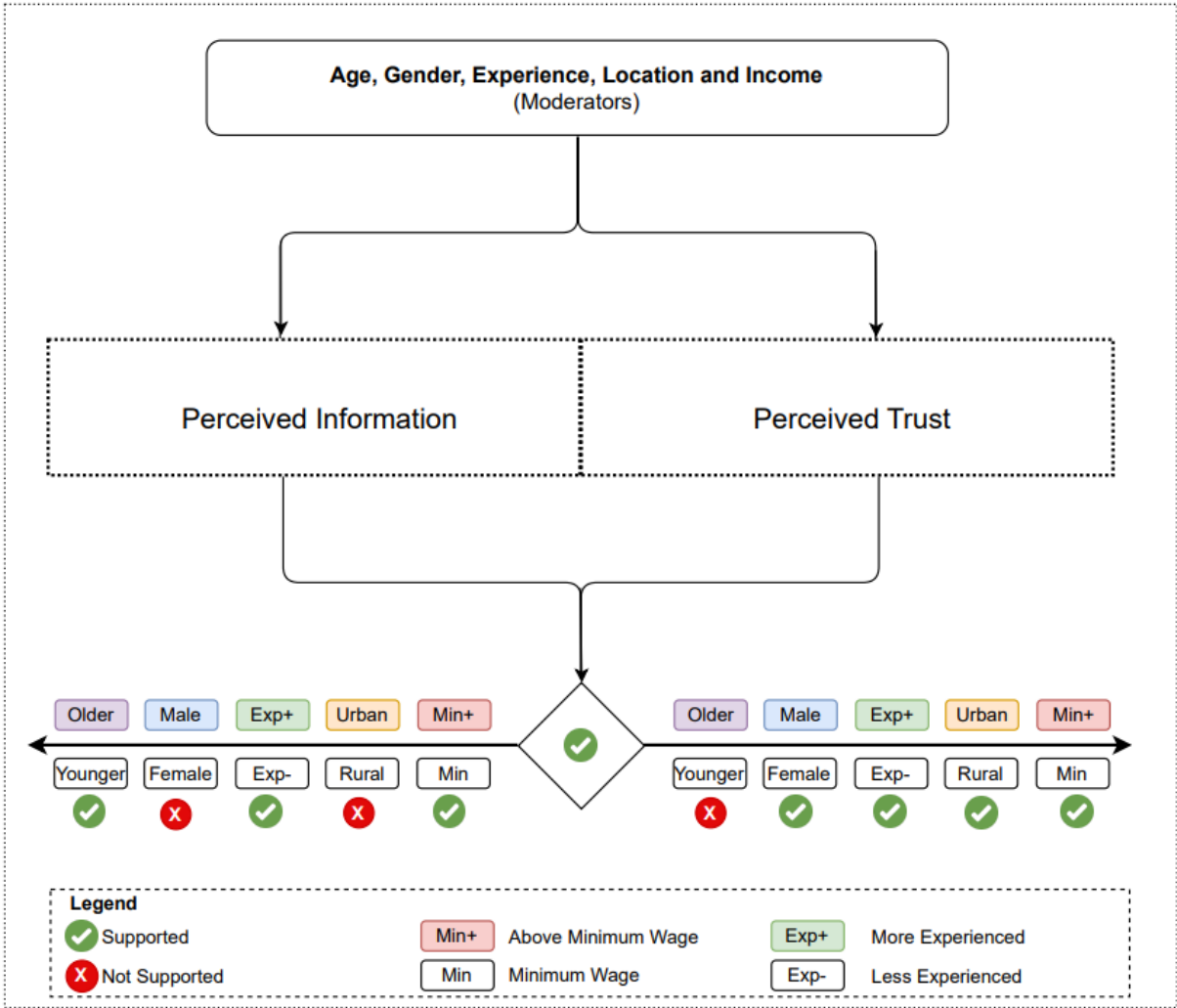


Figure 5.3: Statistical findings with moderation effects – two-group analysis

As outlined in the previous chapter on results, a baseline model was initially tested to examine the influence of Perceived Information (PI) and Perceived Trust (PT) on online

purchase intention. This preliminary analysis excluded moderating variables to focus solely on the direct impact of PI and PT across the overall dataset. The results indicate that PI and PT significantly influence UK consumers' intentions to purchase banking products online when no moderators are applied. This is visually represented in the central rhombus of Figure 5.3, which precedes the branching on both sides representing the inclusion of moderating effects on the two variables.

Existing literature supports the notion that PI and PT are important determinants of online purchase intention. For example, Chaturvedi, Gupta and Hada (2016) highlight the role of information in online purchasing behaviour, while Al-Debei, Akroush and Ashouri (2015), Merhi, Hone and Tarhini (2019) emphasise the critical influence of trust in fostering purchase intention. Notably, there is a limited body of research examining the role of information in technology acceptance, which makes it challenging to derive robust inferences from prior studies.

Perceived Information and Perceived Trust Moderated by Age

Results from the Multi-Group Analysis (MGA) examining the moderating effects of age on online purchase intention reveal that perceived information exerts a stronger influence on younger consumers compared to older consumers, supporting the corresponding hypothesis. In contrast, the findings indicate that perceived trust does not exhibit a greater influence on purchase intention among younger consumers than on older consumers, leading to the rejection of the associated hypothesis.

Although limited research exists on the moderating effects of age on perceived information, the findings of Cole and Balasubramanian (1993) and Spence *et al.* (2006), while not directly in the same research context, partially align with the results of this study. These studies suggest that PI generally exerts greater influence on younger consumers, extending beyond the online purchasing context. Masele and Taluka (2017) reported no significant age-based variation in the effect of PT on online purchase intention. This observation is consistent with a recent report by McKinsey & Company (2021), which states that “age is no longer a differentiator for retail banking digital preferences.”

Differences in behaviour across age groups regarding PI may stem from varying levels of experience and digital familiarity. Younger customers, typically with less exposure

to financial products, tend to rely more on accessible and detailed information to support their decision-making. In contrast, older customers often draw on accumulated knowledge and experience, reducing their dependence on external information. For this group, PT may carry greater weight, partly due to lower digital literacy and heightened concerns about online security. As a result, they tend to place more emphasis on the credibility of platforms or service providers.

Additionally, younger customers, being more digitally experienced, navigate online platforms with ease and are more responsive to online information, often prioritising it over trust. On the other hand, older customers may prefer non-digital channels or personal interactions. They may also experience information overload when presented with excessive online content.

Perceived Information and Perceived Trust Moderated by Gender

Examining the role of gender on online purchase intention reveals that the influence of perceived information is not stronger on male consumers compared to female consumers, rejecting the hypothesis. In contrast, the moderating effect of gender on perceived trust has a greater influence on online purchase intention among male consumers than female consumers, thus supporting the associated hypothesis.

This research did not identify any prior studies that specifically examined the moderating effect of gender on perceived information (PI). However, Zhang, Cheung and Lee (2014) explored how gender moderates the impact of positive inconsistent reviews, finding that female consumers were more responsive to a mix of positive and negative reviews, resulting in a higher intention to purchase online. This aligns with the results of this study, supporting the null hypothesis that there is no difference in the strength of the relationship between perceived information (PI) and online purchase intention for male and female consumers.

While studies on the moderating role of age on perceived trust (PT) in the context of purchasing retail banking products online are scarce, research has highlighted gender differences in moderating the intention to use or adopt new technologies (Chen *et al.*, 2015; Hossain, 2019; Alshurideh *et al.*, 2021). Malaquias and Hwang (2016) found that perceived trust in mobile banking is strongly predicted by gender, with a higher influence observed among male consumers compared to females. These findings are

consistent with this research, where the moderating role of gender on PT was found to be stronger for male consumers. In contrast, Masele and Taluka (2017) found no moderating effect of gender on PT in the adoption of mobile payment systems.

One possible reason why gender differences do not influence PI is that clear and reliable information tends to have universal appeal, transcending gender distinctions. However, the differences in the moderating effects of gender on PT might stem from sample composition; while the study maintained a balanced gender representation, a higher proportion of digitally literate male respondents could have an impact on the moderating effect of gender on PT.

Perceived Information and Perceived Trust Moderated by Internet Experience

Investigating the moderating role of internet experience in shaping online purchase intention reveals that the impact of perceived information and perceived trust is more pronounced among consumers with less internet experience than those with more experience. This outcome provides strong evidence supporting both alternative hypotheses.

According to Venkatesh, Thong and Xu (2012) the adoption of new technology varies by individual differences which also includes the level of internet experience. Saprikis, Chouliara and Vlachopoulou (2010) state that consumers with different levels of experience perceive online shopping differently in terms of their thoughts, beliefs and attitudes, which may influence their behaviours in distinct ways. In the context of perceived trust and perceived information, Cheema and Papatla (2010) has also found that as consumers gain more internet experience, their trust in information from online search engines tends to decrease. Similar findings by Wu, Quyen and Rivas (2017) also revealed that more experienced consumers already have higher trust in online purchasing thus not overly influenced by perceived trust. This was also evidenced in the works of McKnight and Chervany (2001). These studies therefore support the findings of this research stating that less experienced consumers are more strongly influenced by perceived information and perceived trust.

Variations in behaviour between less experienced and more experienced internet users, with respect to perceived information and perceived trust, can be attributed to the fact that novice users are less familiar with online platforms. Therefore, these

consumers possess heightened sensitivity to uncertainty, which can make them more responsive to trust signals when navigating online spaces. This could lead them to rely more heavily on the information provided online as a guide to making purchasing decisions. This highlights the need to support these consumers with well-designed interfaces, well-trained customer advisors and clear, straightforward information, as they are not yet comfortable navigating complex or overloaded websites. Moreover, this cohort is more likely to depend on simple, clear cues to build trust and make informed decisions. By addressing these needs, businesses can enhance the benefits of online information-seeking, as the internet has expanded avenues for information seeking, offering a wider range of channels for consumers to explore and access information (Bhatnagar and Papatla, 2019).

Perceived Information and Perceived Trust Moderated by Location

An analysis on the role of location on online purchase intention reveals that the influence of perceived information is not stronger on urban consumers compared to rural consumers, leading to the rejection of the hypothesis. Conversely, the moderating effect of location on perceived trust demonstrates a greater influence on online purchase intention among urban consumers than rural consumers, thereby confirming the associated hypothesis.

In a study examining the adoption of mobile financial services among rural and urban consumers in Pakistan, Tariq *et al.* (2021) found that the drivers of intention varied between the two groups. Their findings align with the current study, which indicates that perceived trust plays a greater role for urban consumers than perceived information. The role of information in technology acceptance cannot be overemphasised. However, this research has not identified any studies examining the moderating role of location on perceived information. Nonetheless, the International Telecommunication Union (2021) highlights a significant urban-rural connectivity gap, with some rural areas lacking internet access. A similar finding was reported by Ofcom (2023), which noted that 7% of UK households lack internet access at home, down from approximately 11% in 2020 and 24% in 2011. Furthermore, a recent study conducted by Virgin Media O2 (2024) highlights that poor connectivity continues to pose challenges for rural areas in Britain, limiting residents' access to digital services and opportunities. UK rural residents account for nearly eleven million of the country's total population (Statista, 2021).

For the moderating role of location on perceived trust, Masele and Taluka (2017) established that perceived trust strongly and positively influences the adoption of mobile payment services in rural areas. However, the authors did not compare their findings with urban consumers. In the current study, perceived trust also has a positive influence on online purchase intention; however, when moderated by location, the influence of perceived trust on urban consumers tends to be greater. A recent study by Manrai, Yadav and Goel (2024) also identified perceived trust as a key driver of technology adoption among urban consumers.

The difference in the influence of perceived information and trust across urban and rural consumers could stem from several factors. It is possible that urban consumers, being exposed to multiple sources of information and more familiar with online shopping, tend to rely less on perceived information from bank websites. This greater exposure to different online platforms may shift their focus toward trust in the platform rather than product-specific information. In contrast, rural consumers, with limited exposure to different brands, online platforms, and information sources, may place greater emphasis on the available product information, especially when unfamiliar with the platform, brand or product. Additionally, the results may be influenced by a sample size imbalance, as the urban-to-rural ratio in the study is 5:1, meaning there are fewer rural respondents.

Perceived Information and Perceived Trust Moderated by Income

The relationship between perceived information and online purchase intention, moderated by the income variable, is stronger among low-income consumers than high-income consumers. A similar pattern was observed for perceived trust. These findings, therefore, confirm both hypotheses, demonstrating that income level significantly moderates the relationship between perceived information, perceived trust and online purchase intention.

Income is another demographic variable that has received considerable attention in research, particularly in the field of technology acceptance (Chebat, 2008; Shin, 2009). However, the findings regarding its significance in explaining online shopping behaviour have been inconsistent. (Miyazaki and Fernandez, 2001; Al-Somali, Gholami and Clegg, 2009). Contrary to the above findings, Chan *et al.* (2015) reported

a strong relationship between income level of participants and the effort invested in information seeking, with higher-income earners spending more time searching for information. On the other hand, according to Hernández, Jiménez and José Martín (2011), low income discourages online transactions, while higher income may boost perceptions of self-efficacy, ease of use, and usefulness due to a greater ability to absorb potential financial losses. The latter authors discovered that income plays a role in technology acceptance however, once individuals become experienced e-shoppers, their behaviour tends to be similar, regardless of age, gender or income level. Similarly, Agarwal and Dixit (2019) identified income as a potential factor influencing the choice of shopping channel in their study on the impact of channel choice on shoppers' satisfaction.

Given the above, potential explanations for the differences in behaviour between low-income and high-income consumers could be due to the complex nature of financial products and the added risks associated with online transactions. This might mean that high-income earners have a greater propensity to trust online purchasing and the information provided more than low-income earners. In other words, for high-income consumers, the financial impact of an online transaction going wrong might be perceived as less severe compared to low-income consumers. Moreover, high-income earners are more likely to have prior exposure to complex financial products, giving them a higher level of confidence in understanding and navigating online platforms. High-income earners, with more online transaction experience, better access to technology, and greater digital and financial literacy, are likely to trust the online purchasing process more. They may prioritise reputation and trusted sources over detailed product information when making purchasing decisions. These might reduce the influence of perceived information and perceived trust on their online purchase intentions.

Summary of Hypothesis Testing

Overall, standard hypothesis testing without moderating variables revealed that performance expectancy, price value, and habit significantly influence consumers' intention to purchase banking products online, while effort expectancy, social influence, and facilitating conditions did not show a significant effect. Perceived trust emerged as a strong predictor for offline buyers, but not for online buyers, whereas perceived information had a partial effect among offline buyers but was not supported

for online buyers. Moderation analysis further revealed that perceived information had a stronger impact on younger customers, less experienced internet users, and low-income groups, while perceived trust was more influential among older customers, male customers, less experienced users, urban residents, and low-income groups.

The two newly introduced and validated constructs of the model, perceived information and perceived trust were found to influence online purchase intention. Perceived trust emerged as a more influential construct than perceived information, as evidenced by the number of supported hypotheses involving this variable. Even when the data was grouped by online and offline customers, perceived trust demonstrated a stronger impact on the intention to purchase online, particularly among offline customers. This heightened influence may be attributed to the unique challenges of digital environments. These are especially pronounced in sectors involving sensitive and intangible products such as financial services, where concerns about risk, data security, and the lack of physical interaction elevate the importance of trust. In such contexts, trust becomes a critical determinant of consumer behaviour, often outweighing the influence of informational indicators.

Moreover, the sample included a proportion of respondents who had never purchased financial products online. While this subgroup was relatively small, its presence may have amplified the role of trust in influencing online purchase intentions. Individuals who lack prior experience with digital transactions often perceive higher levels of uncertainty and risk. Without previous interactions to inform their decisions, these consumers are more likely to evaluate the credibility, reliability, and reputation of the service provider as key factors. In such cases, trust functions as a substitute for direct knowledge or past experience, enabling consumers to feel secure enough to engage in online financial activity. This is particularly relevant in financial services, where the perceived consequences of a poor decision can be more serious than in lower-risk domains such as retail shopping.

Another possible explanation lies in the measurement instrument. The trust construct may have demonstrated stronger effects because its items were previously validated in established studies and were likely more closely aligned with respondents' perceptions. Specifically, three of the five items used to measure trust were adapted from well-established sources (Gefen, Karahanna and Straub, 2003; Hong and Cha,

2013). In contrast, the items used to measure perceived information were newly developed for this study, which may have affected their reliability or relevance to participants' lived experiences, resulting in comparatively weaker statistical relationships.

5.3.4 Enhancing Trust in Online Purchasing in UK Retail Banking

RQ4. Survey open-ended question: *"In your opinion, what else can UK retail banks do to increase customers' trust towards the adoption of online purchasing?"*

Trust is essential in any seller-buyer relationship, regardless of the channel. In online purchasing, trust becomes even more critical, particularly for financial products, which often evoke apprehension. Lin, Wang and Hung (2020) emphasise the importance of trust in e-commerce, especially since parties are not physically present. Participant responses in this study identified key trust-related themes, with enhanced data and infrastructure security emerging as the top concern, followed by transparency of information and the training and education of both customers and support staff. These insights align with the findings of Venkatesh, Thong and Xu (2012) which highlights the importance of facilitating conditions in building trust and encouraging technology adoption.

Connecting these qualitative insights to the variables of the research model reveals that trust in online purchasing of consumer banking products in the UK is influenced by facilitating conditions, perceived information, perceived trust, price value, and effort expectancy, with facilitating conditions emerging as the most impactful. Key themes include enhanced security (facilitating conditions and perceived trust), transparency and information clarity (perceived information), training and education (facilitating conditions), digital purchasing campaigns (facilitating conditions), accessible customer service (facilitating conditions), fraud protection and compensation (price value) and a simplified purchasing process (effort expectancy).

Figure 5.4 virtually presents these findings. Albeit some studies have found that facilitating conditions may not always significantly predict behavioural intentions or usage (Arenas-Gaitán, Peral-Peral and Ramón-Jerónimo, 2015; Singh and Matsui, 2017; Tarhini *et al.*, 2018).



Figure 5.4: Visualizing the five pillars of trust (FEP3) in online purchasing

These findings emphasise the critical importance of trust in promoting the adoption of online purchasing of financial products in the UK. One significant observation from the study is the request for training and education for both customers and frontline staff to help build trust in online purchasing. This has been highlighted by previous studies, demonstrating the willingness of older adults to improve their digital financial literacy through UK financial institutions (Asmi and Ishaya, 2012; Thomas, Chowdhury and Ruthven, 2023; 2025). Enhancing financial literacy is essential, as it can positively affect economic health and foster a more competitive and stable economy (Goyal and Kumar, 2021). Santini *et al.* (2019) also argue that strong financial literacy often leads to positive financial behaviour.

The following quotes, derived from responses to the open-ended questions, provide qualitative support for the respective pillars of trust presented in Figure 5.4. They illustrate how the various influencing factors impact trust in online purchasing of

consumer banking products. These firsthand insights further validate the relationships between the constructs of the research model and the themes identified:

R2: *“Offering more protection and perhaps 100 percent money back guarantee against fraud will persuade customers to transact more online.”*

R29/R54: *“Make it quick and easier to purchase” / “Clear and precise information.”*

R35: *“Enhanced Customer Support. Offer robust customer support channels for online shoppers, including live chat, email, and dedicated helplines.”*

R45: *“They need to make sure to keep their promises that build the customer trust.”*

R55: *“To provide customers with the technical expertise and infrastructure needed for secure and reliable online transactions, providing better service.”*

R130: *“Increase security measures to keep everything safe. Be open and upfront about everything.”*

R164: *“Educational campaigns, customer support and enhanced security.”*

R217: *“Have in branch support, the staff are unsupportive and do not understand the products. They get annoyed with those unable to use the internet.”*

5.3.5 Barriers and Drivers to Online Purchasing

Survey open-ended question (supplementary insights - RQ3/RO6): *“Please share your thoughts on what you believe would encourage you to purchase or re-purchase online, as well as what discourages you from purchasing online.”*

Understanding the barriers and drivers to online purchasing is crucial for exploring the dynamics of e-commerce, particularly in the context of UK retail banking. Consumers face both motivating factors and obstacles that can influence their decision to purchase online or choose alternative channels. This section explores the key barriers, such as trust concerns, security issues, and technological accessibility, as well as the drivers, including convenience, perceived value and information availability, in shaping online

purchasing behaviour in the UK retail banking sector. Figures 5.5 and 5.6 present the findings which are discussed below.

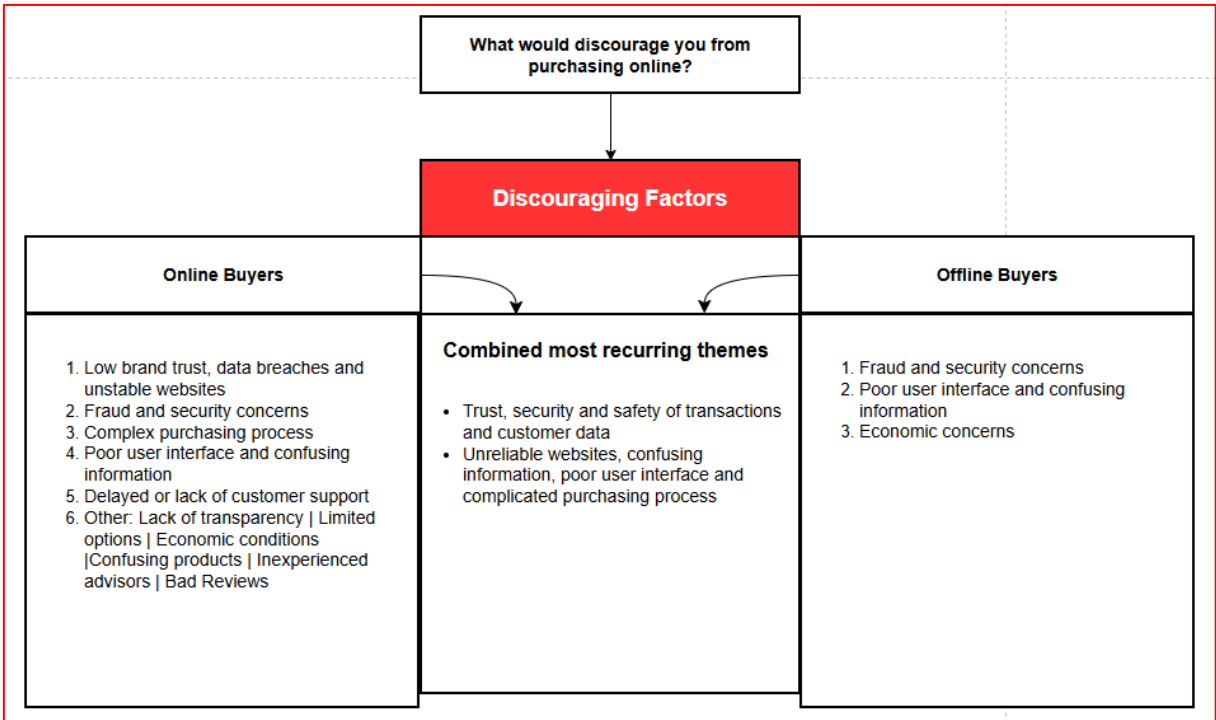


Figure 5.5: Barriers to online purchasing in UK retail banking

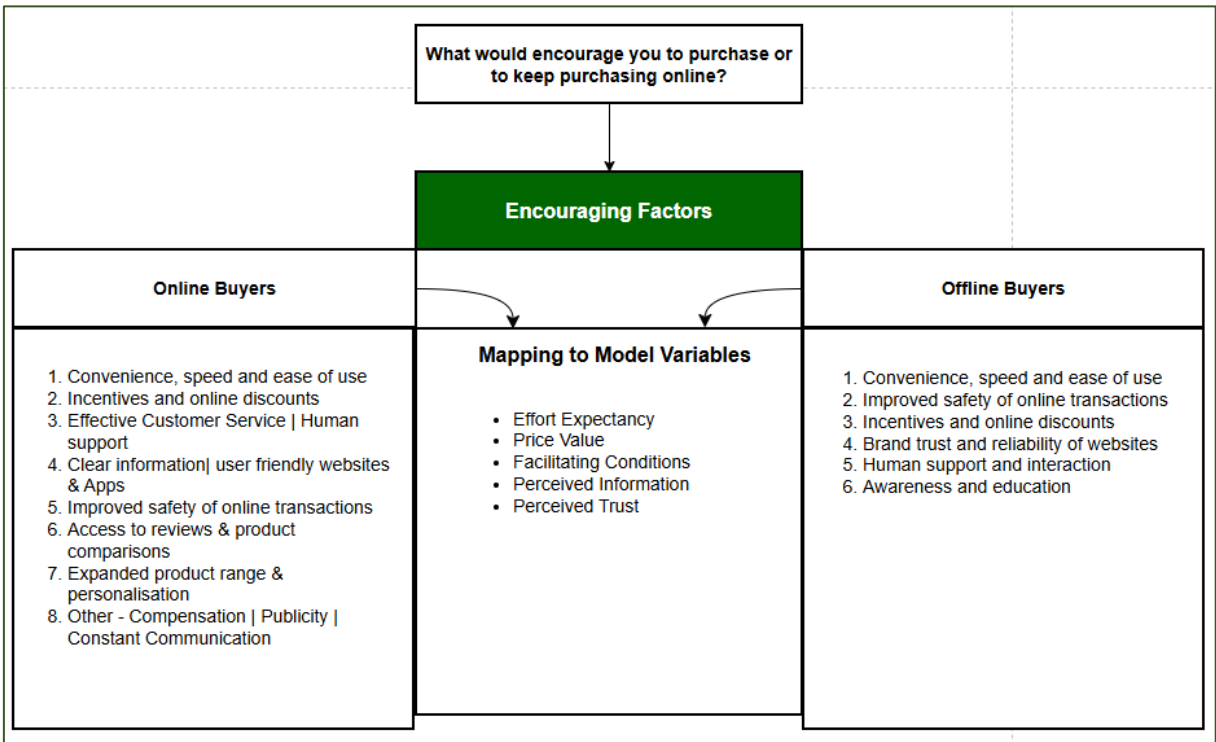


Figure 5.6: Drivers to online purchasing in UK retail banking

This integration has revealed five constructs within the research framework that emerged as pivotal at the intersection of both online and offline consumers. These constructs: effort expectancy, price value, facilitating conditions, perceived information, and perceived trust were identified as key drivers and motivations for online purchasing of consumer banking products in the UK. This also aligns with previous findings on trust-building elements in online purchasing within UK retail banking where price value, facilitating conditions, perceived information and perceived trust also emerged as influential factors. The consistency of these themes across both consumer groups affirms their significance in shaping purchasing decisions across all segments.

Several studies have explored the factors influencing e-commerce adoption, identifying both barriers and drivers. Barriers often relate to concerns about trust, security and the safety of transactions. On the other hand, convenience and easy access to information serve as key drivers of adoption. Additionally, confusing and inaccurate information emerge as significant barriers, further discouraging users from engaging in e-commerce (Jain and Kulhar, 2019; Higuera-Castillo, Liébana-Cabanillas and Villarejo-Ramos, 2023). Recently, Thomas, Chowdhury and Ruthven (2023) examined the challenges faced by older people in adopting online banking and financial services. The authors identified key issues, including fear of financial scams, a lack of digital skills and insufficient support. These barriers significantly limit the ability of senior citizens to effectively engage with digital financial services.

5.4 Qualitative versus Quantitative Variance

While both qualitative and quantitative findings indicate that performance expectancy, price value, habit, perceived information, and perceived trust influence online purchase adoption, notable differences emerged between the two methods. The quantitative results did not find statistically significant relationships between online purchase intention and effort expectancy, social influence, or facilitating conditions. However, qualitative insights from open-ended responses offered a contrasting perspective. Participants frequently identified effort expectancy and facilitating conditions as important drivers of online purchasing (Figure 5.6) and as key elements in building trust in the online purchasing of financial products (Figure 5.4). These themes were consistently mentioned by both online and offline customers, suggesting that despite the lack of statistical support, these factors remain relevant.

Qualitative responses allow participants to explain their thoughts in context. For example, a participant might not rate effort expectancy highly in a structured survey, but the same participant may mention 'poor website design' or 'difficulty navigating online platforms' as barriers in an open-ended response. These practical challenges are more naturally expressed through narrative than by selecting from a predefined list. This may explain why the quantitative findings for effort expectancy and facilitating conditions have a positive but non-significant impact on online purchase intention. This suggests that the relationships exist but are not strong enough to be statistically significant. Additionally, participants may interpret structured survey statements differently than when articulating their needs in their own words. These contrasts highlight the value of qualitative inquiry in capturing customer perspectives that may not be fully reflected through hypothesis testing.

The research has successfully achieved its overall aim and objectives. It has identified the factors that influence the acceptance of online purchasing among UK retail banking customers, examined their pre-purchase information-seeking behaviours, and highlighted the key drivers and barriers to online purchasing. These findings contribute to a deeper understanding of consumer decision-making in the context of UK retail banking.

5.5 Chapter Summary

This chapter provided an analysis of the research findings, aligning them with the study's overarching aim and objectives. It begins by examining the information needs of UK retail banking consumers, highlighting gaps in how these needs are currently addressed by UK retail banks. The findings on preferred information sources and the rationale behind their selection provide further understanding into consumer decision-making patterns and behaviours.

Furthermore, the key model variables influencing online purchasing behaviour was presented, shedding light on key determinants that drive online purchasing in UK retail banking. Strategies to build trust and enhance consumer confidence in an era where digital engagement is paramount were also discussed. Additionally, the study identified the key barriers and drivers to online purchasing, providing actionable insights for improving customer experiences and supporting customers to overcome their challenges and fears in the digital landscape.

The next chapter discusses the key contributions of this research, explores the theoretical, practical, and policy implications of the research findings, alongside a discussion on the limitations of the study. Drawing on the insights gained from this chapter; it also proposes opportunities to further advance the objectives of the study and establishes a basis for future research within the domain of investigation and related domains.

CHAPTER 6: CONTRIBUTIONS AND CONCLUSION

6.1 Chapter Overview

This concluding chapter provides a summary of the research achievements, establishing a clear linkage between the research questions, objectives, and hypotheses. It systematically identifies the sections within the thesis where each research question has been addressed, offering evidence-based insights that substantiate the findings of the study. The chapter then outlines the key contributions of the research categorising them into theoretical and practical dimensions. These contributions emphasise the significance of the study in advancing theoretical understanding, offering practical value to consumers and industry stakeholders while introducing innovative perspectives that expand the scope of existing literature and practice. Next, the chapter discusses the broader implications of the findings discussed in the previous chapter, highlighting their relevance to research, the UK retail banking industry and the overall financial services sector. Finally, the chapter discusses the limitations of the study and, building on the insights gained, identifies opportunities for future research and presents a conclusion aligned with the key objectives of the study.

6.2 Summary of Achievements

This research has fulfilled its stated objectives, demonstrating a comprehensive and well-structured investigation into the key areas of inquiry. Each objective was systematically addressed through the review, analysis and synthesis of existing literature, which informed the research purpose, guided methodological decisions and shaped the subsequent analysis and interpretation of findings. These steps ensured that the objectives of the research were met through a meaningful and academically rigorous process.

The research trajectory, as illustrated in Chapter 5, Table 5.1, provides a detailed mapping of each objective to its corresponding research question. Additionally, Figure 6.1 establishes a clear connection between the research questions, hypotheses, and the respective sections of the thesis where these questions are examined and answered. This systematic approach serves as a foundation for the subsequent discussion on the key contributions of the study and the broader implications of its findings. Ultimately, this analysis has facilitated the generation of valuable insights and informed the development of recommendations for both academic and practical applications.

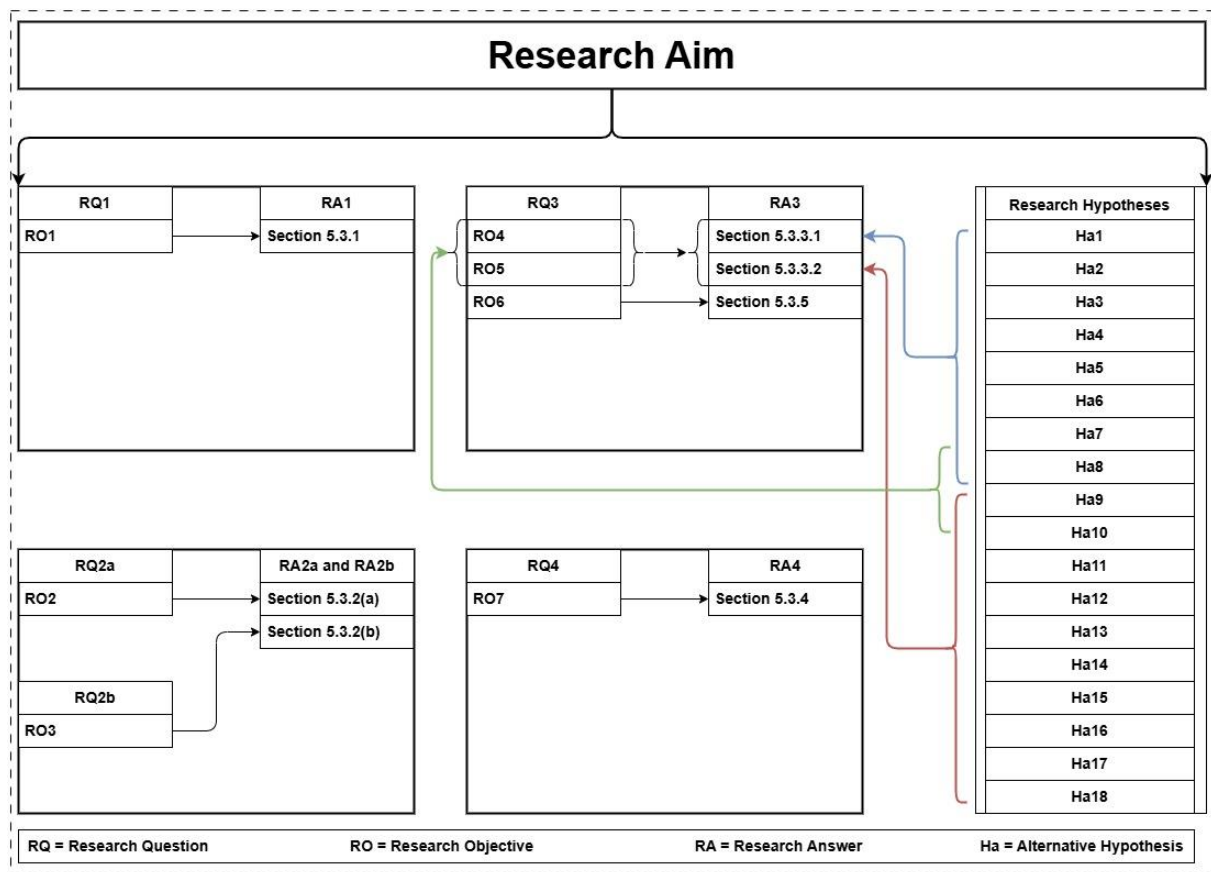


Figure 6.1: The thread from aim to achievement

6.3 Novelty

This study is particularly timely as it explores consumers' information needs, preferred sources, and the drivers and barriers to purchasing financial banking products online. This is crucial at a time when rapid technological advancements are reshaping the banking industry, and consumers are striving to adapt. However, many still face persistent challenges tied to digital and financial literacy. The study reveals that customers struggle to navigate digital banking platforms and comprehend financial product information, which undermines their trust and confidence and raises fear in online financial transactions. These difficulties extend beyond mere access to technology and reflect deeper issues related to digital competence, financial product understanding, cognitive load, and the clarity of online information.

In response, the study provides robust empirical evidence highlighting the need for banks and financial institutions to fundamentally rethink how they design and structure digital information. It emphasises inclusive, user-centred design that addresses diverse informational and cognitive needs, promoting digital equity and financial inclusion. The research equips banks with actionable insights (Section 6.5) to develop clearer, more

accessible interfaces, improve communication strategies, and strengthen customer engagement. Ultimately, it positions financial institutions as critical enablers in closing the digital and financial literacy gap and advancing equitable access to financial services in an increasingly digital banking landscape. Building on this, the research has produced several novel insights:

- **Drivers and Barriers:** The identification and conceptualization of key drivers and barriers to online purchasing within UK retail banking. Insights from both online and offline consumers ensure a holistic understanding and financial inclusiveness.
- **Types of Information Requirements:** Two primary categories of online information needs were identified. Requirements for new information and enhancements to existing information.
- **Pre-purchase Information Sources:** The study identified customers preferred pre-purchase information sources and reasons for choice of information sources.
- **Age-based Influences:** Findings indicate that younger customers are more influenced by perceived information, while older customers rely more heavily on perceived trust.
- **Safety and Security Concerns:** Respondents emphasised the importance of clear safety and security information, as well as accessible support from advisors. Many participants also highlighted challenges in understanding the information available on banking websites.

6.4 Key Contributions of the Research

This research makes significant contributions across multiple domains, offering new perspectives on consumer behaviour, information-seeking behaviour and technology acceptance in the context of digital banking. Additionally, it responds to calls made by Karimi (2013), Deloitte (2020) and through the World Retail Banking Report (2022). While Karimi (2013) emphasised that online information-seeking and purchasing in the banking sector continues to lag behind, Deloitte (2020) highlighted the need for banks to move beyond predominantly practitioner-focused research and incorporate more theoretically grounded and academically rigorous studies. Similarly, the World Retail Banking Report (2022) stressed that retail banks are falling behind in delivering a truly personalised customer experience. By integrating key theoretical concepts with empirical findings, the study advances existing literature while providing meaningful insights for both academic and industry stakeholders, thereby responding to the issues identified. The findings contribute significantly to several areas, shaping theoretical

discussions and informing industry applications. The following sections outline these contributions, emphasising their broader impact on research and practice.

6.4.1 Theoretical Contributions

6.4.1.1 UTAUT2 Integration

From a theoretical perspective, the research advances technology acceptance theories and models by integrating the UTAUT2 model with ELIS model. This integration represents an advancement in theoretical frameworks (Alvesson and Kärreman, 2007). To the best of the author's knowledge, this research is the first to integrate the concept of problem-specific everyday life information-seeking behaviour into the UTAUT2 model, specifically within the context of UK retail banking. The study therefore expands information science research and deepens the understanding of retail banking consumers' information-seeking behaviour. This is a notable step forward, especially in a domain where much of the theoretical work is based on practitioner-driven literature. Integrating these two frameworks has provided valuable insights into how everyday information-seeking behaviours influence personal technology adoption in UK consumer banking, while also paving the way for further research and exploration in this area.

The two new constructs of the model, perceived information and perceived trust demonstrated moderate significance when tested alongside other variables, but in isolation, both perceived information and perceived trust exhibited a strong influence on online purchase intention. Additionally, their impact persisted even when analysed under moderating factors such as age, gender, internet experience, location, and income, emphasising their robustness and relevance within the integrated framework. Although UTAUT2 applications and extensions are widely explored in literature, studies applying UTAUT2 integration are notably limited. This study contributes to bridging this gap by extending the theoretical horizon of UTAUT2 integration, as described by Tamilmani *et al.* (2021). It involves incorporating all or part of the UTAUT2 model with one or more theories of academic importance within a study framework.

6.4.1.2 Financial Inclusion

Additionally, the research work stands out as one of the few studies to apply a technology acceptance model while also incorporating the perspectives of traditional consumers, commonly referred to, in this research, as offline buyers, thereby filling a notable gap in literature. Moreover, the influence of geographical location has been

largely overlooked in technology acceptance research. As highlighted by Ong, Yusri and Ibrahim (2023), “the role of the rural population in the success or failure of any financial inclusion endeavour is undeniable.” Accordingly, this study also contributes to addressing challenges related to financial exclusion and information poverty. A demonstration of inclusivity and equity in research.

To capture the experiences of both online and offline buyers, each respondent group was presented with the same instrument; however, it included deterministic or branching questions. The resulting data was integrated into the overall model for the first phase of statistical analysis but subsequently analysed separately when developing the offline and online models to examine the impact of perceived information and perceived trust on the different consumer types. The differentiator and decision tree for branching is on the question - Purchase channel: Did you purchase any of these products online? Yes / No.

6.4.1.3 Expansion to Retail Banking Literature

Although consumer behaviour in retail banking is a critical area of study, it remains relatively underexplored in academic literature. This research therefore provides valuable insights into the factors influencing consumer decision-making and engagement with the retail banking online platforms. Additionally, this study contributes to the broader fields of consumer behaviour, technology acceptance, and information science by examining how digital innovations and financial technologies shape consumer interactions with banking services. By adopting a multidisciplinary approach, this research not only enhances our understanding of consumer behaviour in financial contexts but also fosters opportunities for cross-disciplinary collaboration, ultimately enriching the theoretical and practical discourse across multiple domains.

6.4.1.4 Methodological Contributions

The research makes several methodological contributions. First, new measurement items were introduced, which could serve as a foundation for further exploration in future studies. Given the limited availability of existing research within the domain of investigation, there was a lack of established measurement items for the newly incorporated constructs in the model. While some items related to perceived trust were adapted from previous studies to align with the study context, new measurement items were developed for perceived information. The review and learning from previous work guided the development of the instrument and new items. These newly created items

provide a basis for future refinement and validation, contributing to the advancement of measurement scales in this field.

Secondly, the study employs both Partial Least Squares Structural Equation Modelling (PLS-SEM) and Partial Least Squares Multi-Group Analysis (PLS-MGA) for statistical analysis. The latter is particularly valuable for comparative analysis across multiple groups and was used to assess two model constructs, perceived information and perceived trust, across ten groups of five moderation variables. PLS-MGA is an advanced statistical technique that enables the identification of significant differences in structural relationships between groups. As noted by Cheah *et al.* (2020), evaluating moderation effects using PLS-MGA enhances the detection of meaningful variations in group-specific relationships, thereby strengthening the robustness of the analysis. Despite its methodological advantages, PLS-MGA has been rarely applied in prior studies on technology acceptance within the domain of investigation. Notably, the researcher has found no previous studies employing PLS-MGA to analyse online purchase intention within the UK retail banking sector. This study, therefore, makes a key methodological contribution by demonstrating the application of PLS-MGA in this context, thereby providing a methodological precedent for future research.

6.4.2 Practical Contributions

6.4.2.1 *Bridging the Financial Literacy Gap*

Research indicates that online information seeking and purchasing in the banking sector continues to trail behind, primarily due to the complexity of financial products and the ineffective presentation of information (Karimi, 2013). This was also reaffirmed by the World Retail Bank Report (2022), which suggests that retail banks are currently behind others in providing a truly personalised customer experience. The findings of this research reveal that these challenges persist. Therefore, examining the drivers and barriers to online purchasing, alongside understanding consumer information needs within the UK retail banking sector, is a vital step towards addressing this gap, fostering equitable opportunities and establishing a more inclusive digital ecosystem especially in an era of rapid bank branch closures where misinformation is prevalent.

6.4.2.2 *Consumer Behaviour in UK Retail Banking*

Online consumer behaviour differs significantly from traditional consumer behaviour, particularly in contexts involving financial products. Existing research on retail products often emphasise hedonic shopping motivations, which focus on enjoyment and

emotional gratification (Kim and Hong, 2011; Arnold and Reynolds, 2012; Horváth and Adigüzel, 2018; Lissitsa and Kol, 2021). However, studies addressing financial products have primarily concentrated on banking services, such as customer satisfaction and service delivery, rather than the critical initiation phase of a purchasing agreement that enables subsequent service interactions. This pre-purchase decision-making stage remains an underexplored area in the literature, despite its significance. Karimi (2013) also identified this gap, emphasising that the use of the internet for research and purchasing in the banking sector has received limited scholarly attention.

The acquisition of consumer banking products often aligns with utilitarian shopping behaviour, characterised by goal-oriented, task-driven actions focused on fulfilling a specific need with minimal emphasis on enjoyment (Chitturi, Raghunathan and Mahajan, 2008). As such, understanding the pre-purchase information seeking process for these products is essential for addressing gaps in both consumer behaviour and financial services research.

6.4.2.3 Supporting Artificial Intelligence and Machine Learning Development

The conceptual model, developed and empirically tested, complemented by the insights from qualitative data, explored the behaviour of online and offline consumer groups. By analysing both cohorts, the research uncovered valuable insights into their distinct behavioural patterns, motivations and experiences. This dual approach not only highlights the similarities and differences in the behaviour of both consumer groups but also contributes to a more detailed understanding of the factors influencing online purchase intention and the choice of information sources. These insights are invaluable for banks and financial institutions, as they are critical for effectively developing and utilizing the capabilities of machine learning and artificial intelligence. This understanding supports enhanced marketing and engagement, informed product development, fraud detection and security, improved customer experience, and personalisation of services.

6.5 Recommendations

The findings, along with the insights provided, form a foundation for developing targeted strategies to support consumers. These insights could also inform policy and/or stimulate debate among policymakers, financial services regulators, marketing executives, product designers, and senior management. In addition, the recommendations may hold relevance for the digital delivery of government services

to the UK public, such as passport applications, national identity cards, driver's licenses, and the payment of taxes or fines. In these contexts, the availability, accessibility, clarity and transparency of online information are essential for fostering user trust, engagement, and effective service delivery.

The following recommendations are proposed to address the identified gaps. They aim to advance the findings of the study, enhance customers' experience in online information-seeking, improve trust and promote the adoption of online purchasing in the UK retail banking sector.

6.5.1 Consumers' Information Needs

The research highlights several key recommendations to address the information needs of UK retail banking consumers and enhance their online purchasing experience. The following recommendations are proposed to enhance the clarity, accessibility and effectiveness of information provided by UK retail banks on their websites and other digital platforms.

6.5.1.1 Simplify Financial Terminology

Most of the respondents, including those with financial knowledge, struggle to understand the language used on banking websites. Retail banks should focus on using plain English and providing clear explanations for complex financial terms to ensure the information is understandable by a wider audience, including those with little educational background and little financial literacy.

6.5.1.2 Enhance Product and Price Information

The retail banking website acts as the primary point of interaction for online customers. Price information, including charges, fees and the overall cost of acquiring a product was identified as a top priority for consumers. Retail banks should ensure that product details, pricing and associated costs are presented clearly and prominently on their websites, to help customers easily make informed financial decisions. Providing detailed explanations of each of these elements identified can reduce confusion and build trust among customers.

6.5.1.3 Enhanced Frequently Asked Questions, Staff and Customer Training

Strengthening and expanding FAQ sections on banking websites can help address common queries about products, fees and security. These should be tailored to the needs of various customer groups to ensure they are easily understood. Additionally.

as customer interactions move increasingly online, it's vital for customer support teams to be well-trained and equipped to provide assistance effectively. Ensuring that staff understand the products they are advising on and can communicate clearly with customers will enhance the overall service experience.

Given the challenges faced by certain demographics, especially older consumers, retail banks should consider offering educational tools and support to improve digital and financial literacy. This will help customers engage online more effectively. A similar recommendation was made by Hanif and Lallie (2021), who examined the intention to use mobile banking applications in the UK among older citizens aged 55 and over. Respondents indicated that additional training and access to information would improve their trust in such applications.

6.5.1.4 Live Chat and Instant Support

To improve customer support and address concerns efficiently, retail banks should prioritise the integration of live chat features on their websites and mobile apps. This investment in real-time communication will enable customers to easily connect with knowledgeable financial advisors or support agents who can offer immediate assistance. Instant support is especially valuable when dealing with complex financial products or addressing security and privacy concerns, as it provides customers with the clarity and trust they need to make informed decisions without unnecessary delays or pressure. Moreover, live chat functions should be easily accessible and user-friendly, ensuring that customers of all technical abilities can navigate and utilise the service effectively.

6.5.1.5 Customer Reviews and Social Proof

Findings suggest that younger consumers are more influenced by perceived information. Personal networks and social information seeking play a significant role in financial decision-making. Banks can therefore enhance credibility in online purchasing for this demographic by leveraging peer reviews, testimonials and influencer endorsements. Additionally, since urban consumers place greater emphasis on trust, they may also respond positively to visible security certifications and verified customer reviews.

By implementing these recommendations, UK retail banks can more effectively meet the information needs of their customers, thereby enhancing the online purchasing experience and fostering trust and confidence in digital banking platforms.

6.5.2 Enhancing and Optimising Information Sources

To create new information channels or enhance the effectiveness of existing information channels such as websites, FAQs, financial advisory services, customer support and financial literacy resources, the following recommendations are proposed.

6.5.2.1 Positioning and Strengthening Banking Hubs

Despite the shift towards online banking services, the continued preference for face-to-face interactions highlights the need for maintaining a physical presence, particularly for complex financial decisions. Banks should consider demographics and location when positioning banking hubs. Additionally, findings indicate that older citizens are more influenced by perceived trust. The services offered by these hubs should also include personalised financial consultations and financial literacy workshops to build long-term customer trust.

6.5.2.2 Leverage Online Aggregator Partnerships

The second most preferred information source by respondents was online aggregator platforms. This finding aligns with previous studies on purchase decision making process of online consumers which states that comparison sites are widely used by consumers. Therefore, retail banks should ensure their presence on these platforms to enhance visibility and attract potential customers. These platforms have become increasingly popular because they offer consumers a centralised view of a wide range of financial products from different banks and financial service providers. Given the popularity of comparison platforms and their preference by consumers, banks should actively collaborate with these aggregators to ensure their products are accurately represented and well presented. Providing clear, transparent and competitive information on these platforms can help attract digitally savvy consumers who rely on side-by-side comparisons when making financial decisions.

6.5.2.3 Improvements to Website Content and Presentation

Relatively few respondents rely on bank websites as their primary information source. Quick access to information and reliability of information was also cited as the most significant determinants for choice of information sources. In an era of widespread misinformation, banks must ensure that their digital content adheres to high standards

of accuracy and transparency. Banks should also focus on enriching their online content and ensuring information is clearer, more detailed and presented in a user-friendly manner. Consumers who rely on online channels for information seeking are more likely to purchase online (Karimi, 2013). Simplifying language, using visual aids and offering interactive tools can help bridge the gap between digital information and consumer understanding. This can also be complemented with the provision or enhancements to digital customer support such as live chat support, chatbots and virtual advisory services. These can provide the reassurance consumers seek before making financial decisions online.

6.5.2.4 Develop Hybrid Information Strategies

Findings indicate that habit plays a significant role in influencing intention to adopt the online purchasing of financial products and services. To support this, banks should enable seamless omni-channel information seeking experience for customers. This will provide a smooth and consistent experience for customers when seeking information across different channels, ensuring that information remains uniform across all platforms and thereby reducing confusion. Customers value both traditional and digital information sources, depending on the complexity of their banking needs. Banks should create an integrated approach that allows customers to start their information search online and seamlessly transition to in-person interactions when required. However, as older citizens seem to prioritise perceived trust over perceived information, they may still prefer physical bank branches for certain transactions. Polo and Sese (2016) recommended using traditional store channels for high-risk purchases.

6.5.3 Enhancing Adoption by Addressing Barriers

6.5.3.1 Enhanced Security Measures

Consistent with prior research, concerns about cybersecurity and trust remain significant barriers to the adoption of online purchasing. Banks should prominently display security information, including data protection measures and fraud prevention tips, to alleviate consumer concerns and build confidence in online purchasing. Additionally, banks should invest more in educating customers about security features such as two-factor authentication, fraud detection and biometric verification to enhance trust in digital financial transactions. Providing educational resources tailored to older consumers can further improve their comfort with online banking and digital transactions. Previous studies have highlighted the willingness of older adults to learn

from financial institutions (Asmi and Ishaya, 2012; Thomas, Chowdhury and Ruthven, 2023)

6.5.3.2 Rewards and Cost-Saving Incentives

Findings from both qualitative and quantitative data identify price value as a key factor influencing online purchase intentions. Retail banking institutions should emphasise the tangible benefits of online purchasing and other digital services. Respondents noted rewards and other forms of incentives as strong motivators for online purchasing. Retail banks can introduce cost-saving incentives, such as exclusive online purchase discounts and reduced service fees for customers who purchase online. Additionally, educating consumers on the financial advantages of online purchasing can reinforce habitual online information seeking and purchasing behaviour.

6.5.3.3 Streamlined Online Purchasing Process

Facilitating conditions and a user-friendly purchasing process are critical drivers of online purchase intentions. Banks must ensure system stability, along with the availability of resources, support, tools and training to help users navigate the purchasing process with ease. Furthermore, banks should create onboarding programmes tailored specifically for customers who primarily engage with offline channels, fostering hybrid banking models in which digital tools complement, rather than substitute, human interactions. This approach will enhance accessibility and reinforce trust among customers less familiar or comfortable with digital environments.

6.5.3.4 Expand Product Offering and Outreach

Consumers expect banks to provide access to a broader range of products and services online. To encourage the adoption of online purchasing of financial products, banks can introduce exclusive online-only products, services and promotions. Additionally, with the proliferation of artificial intelligence across industries, financial institutions may explore how AI tools can be developed and deployed to offer personalised financial product recommendations based on user behaviour, which can increase the perceived value of online purchasing. Notably, the study included few rural respondents, which may indicate digital or financial inequality. To address this, banks should expand their outreach efforts to better understand and enhance financial inclusiveness and access to financial services in rural areas.

6.5.4 Driving Innovation Through Research

As the cornerstone of every economy, banks are vital in driving financial stability, growth and innovation. To remain competitive and enhance customer experiences in an information and data-driven age, they must invest more in academic research focused on understanding consumer behaviour and emerging financial technologies. Collaborating with universities and research institutions will provide valuable insights into constantly evolving customer needs and industry challenges, enabling banks to develop research-based policies and cutting-edge solutions. By prioritising research-driven innovation, banks will not only improve service delivery but also avoid significant regulatory fines, shape the future of finance and reinforce their leadership in an increasingly dynamic financial landscape.

In conclusion, the recommendations provided offer valuable guidance for UK retail banks, and by extension, the insurance and other related financial services sectors, on improving their digital transformation journey. These efforts will enable banks to optimise service delivery and provide consumers with a more seamless purchasing experience. For example, enhancing the provision and clarity of information can significantly improve customer understanding, increase confidence and trust, reduce complaints, boost satisfaction and ensure inclusivity in financial services. The next section discusses the limitations of the current study and suggests avenues for future research.

6.6 Research Limitations and Suggestions for Future Work

While this study provides valuable insights into information-seeking behaviours of UK retail banking consumers and the factors influencing online purchasing in the retail banking sector, it is important to acknowledge its limitations. As with any research, these constraints offer opportunities for further exploration and refinement. The following section outlines the key limitations of the current study and provides recommendations for future research to build upon and expand the findings.

6.6.1 Sampling Strategy and Size Limitations

Although this study gathered data from a geographically distributed audience to enhance representativeness, the sample size and demographic composition may not fully capture the perspectives of the broader population. While efforts were made to include a diverse range of respondents nationwide, the initial target of 500 participants proved challenging to achieve. After two months, only about 200 responses were

received, with 182 valid entries. To address this, the researcher engaged a third-party survey recruitment platform (<https://www.prolific.com>), which increased participation to 438 responses, of which 377 were valid. This approach resulted in a more balanced sample across gender and improved the rural-to-urban ratio.

Despite these improvements, the sample remained predominantly composed of younger and middle-aged urban residents, potentially introducing biases and limiting the generalisability of the findings. Additionally, the partial reliance on a survey recruitment platform may have resulted in an overrepresentation of tech-savvy individuals, consequently underrepresenting those who are less digitally engaged. Future research could address this by increasing the sample size and ensuring a broader demographic representation, particularly among older citizens and rural populations, to enhance the robustness of the results.

Furthermore, the study employed convenience sampling, a commonly used and cost-effective method (Farrokhi and Mahmoudi-Hamidabad, 2012), but one with notable limitations. Convenience sampling often leads to selection bias, as participants are chosen based on accessibility rather than representativeness, thereby reducing the generalisability of the findings. This method also increases the risk of skewed or unbalanced data, potentially compromising the validity and reliability of the results. As a consequence, the conclusions drawn from this study should be interpreted with caution. To mitigate these limitations, future research could adopt more rigorous random sampling methods, such as stratified random sampling, by segmenting the population based on key characteristics like age, gender, income, and location. This would enhance the representativeness of the sample and strengthen the robustness of the findings.

6.6.2 Methodological Limitations

While multi-group analysis is a well-established statistical method that enhances the reliability of findings across different population subgroups, its effectiveness may have been limited in this study due to the sample size. The research attempted statistical analysis on three-group classifications but faced challenges in some subgroups due to insufficient data. Age, experience and income were ultimately classified into two groups each, which may have obscured key insights. Future studies could use larger datasets to conduct a three-group analysis, categorizing age into younger, middle-

aged and older groups; income into low, middle and high brackets; and experience into beginner, intermediate and advanced levels. This could provide a more detailed, deeper and broader understanding of behaviour across different consumer segments.

Additionally, adopting a mixed-method approach could further strengthen future research. The rich qualitative data collected in this study serves as a valuable resource for developing interview questions in subsequent studies. Since the questionnaire was designed before extensive public engagement, consumer interaction was somewhat limited. Future studies could use interviews or focus groups to gain deeper insights. A longitudinal study could also be beneficial in examining how consumers' reliance on information and trust evolves with repeated usage of online platforms. This could provide valuable insights into lifecycle changes in consumer behaviour.

6.7 Further Research Opportunities

Despite the several significant achievements of this study, there are areas that warrant further exploration. These opportunities are not limitations of the current study, but rather potential contributions to the broader research community.

6.7.1 The Influence of Financial Advisers

While over 80% of respondents indicated purchasing their products online, research has also revealed that customer consultations with independent financial advisers have grown by 50% in the past year (Finextra, 2024). Future investigation should explore whether consumers fully trust online purchasing and engage directly with digital platforms or whether they still rely on financial advisers for guidance, particularly for high-value and complex transactions. Additionally, subsequent studies could incorporate additional survey questions to determine whether purchasing decisions were initiated or supported by financial advisers. This would help clarify the role advisers play in shaping consumer trust and decision-making in online purchasing.

6.7.2 Further Refinements to the Conceptual Model

The conceptual model developed in this research makes a valuable contribution to existing knowledge and opens new avenues for further investigation. Quantitative findings indicate that younger customers are more influenced by perceived information, with qualitative insights also highlighting the importance of incorporating customer reviews to enhance social information-seeking. Future research could build on this by examining not only the concept of information seeking (Savolainen, 1995) within the frameworks of information source horizons and pathways (Savolainen, 2008b) but also

by exploring the concepts of information creation and sharing (Savolainen and Thomson, 2022), through the lens of the conceptual model developed. This may include information creation through customer reviews and information sharing by way of receiving and disseminating information.

This suggests a potential evolutionary trajectory, progressing from ‘Way of Life’ and ‘Life World’ to an ‘Expanded Life World’, and ultimately to ‘Integrated UTAUT2’, leading to potential integration of information creation and sharing. A visual representation of this suggested path is provided in Figure 6.2. Additionally, the newly introduced measurement items for perceived information could be refined and revalidated in future studies.

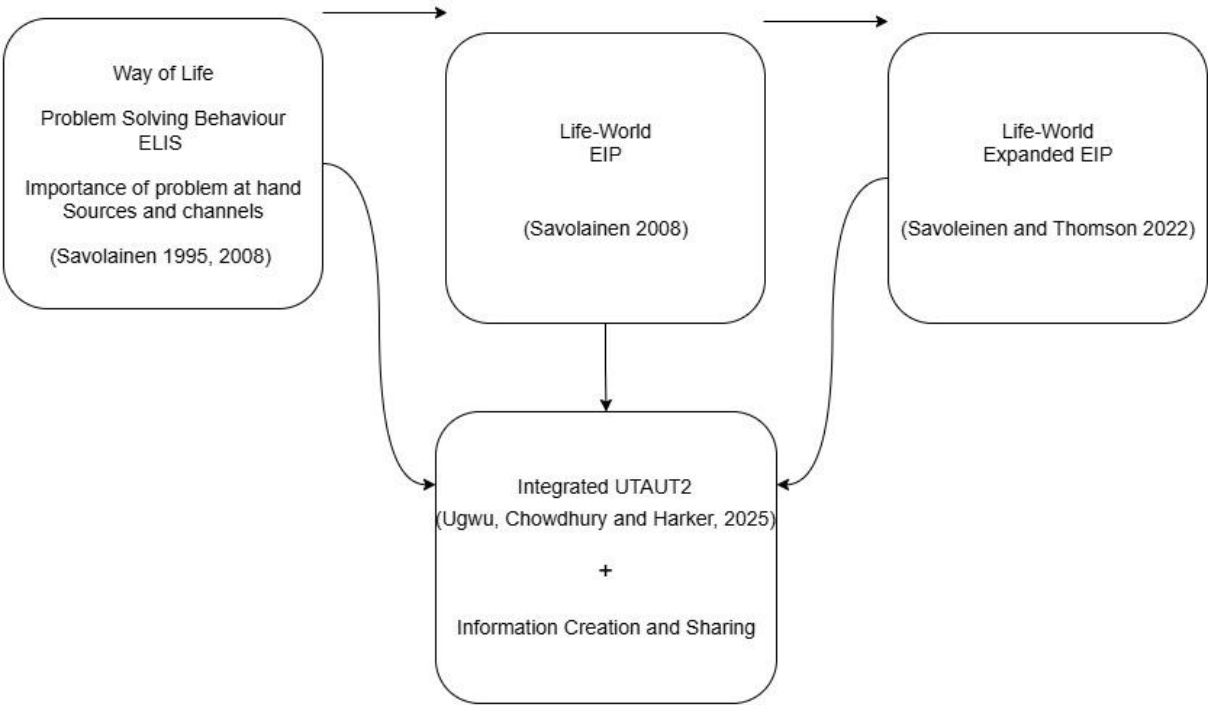


Figure 6.2: Potential area for further integration and refinement

Furthermore, Shim, Serido and Tang (2013) conducted a longitudinal study examining factors that influence young adults’ trust in banks. The authors found that financial knowledge significantly impacts consumer trust. Future research could integrate financial knowledge as either a moderating or independent variable within the conceptual model. Similarly, product characteristics may influence online purchase intention and could be incorporated into the model for further analysis. Expanding the model to other e-commerce sectors beyond retail banking could also enhance its external validity and applicability.

6.7.3 Additional Information Sources

The first two banking hubs in the UK were piloted in 2021, during the early stages of this research. As a result, banking hubs were not included as information source in this study. However, as of December 2024, the 100th banking hub has been opened in the UK (HM Treasury, 2024). Future research should explore incorporating new information sources, such as banking hubs and post offices, depending on the scope and products under investigation.

6.8 Conclusion

This study developed and tested eighteen hypotheses, driven by five research questions, exploring technology acceptance through the lens of information behaviour in finance. By adopting concepts from the ELIS model (Savolainen, 1995) and drawing on insights from source preferences in problem-specific information seeking (Savolainen, 2008b), the research sought new insights into information-seeking behaviours related to the online purchasing of financial products.

The findings reveal a significant information gap, with a clear need for both new content and improvements to existing online information, particularly regarding security, charges, tutorials, and glossaries. Some findings corroborate previous research, such as Hanif and Lallie (2021), who recommended that UK banks provide more training and information to build customer trust, and Asmi and Ishaya (2012), who highlighted the lack of effective engagement by UK financial institutions to support older citizens in adopting internet banking.

Respondents reported multiple barriers to online purchasing, including difficulties in understanding website information, a lack of trained advisors, fear, poor user interfaces, and complex purchasing processes. Bank branches emerged as the most preferred information source, indicating a knowledge gap that prevents consumers from making independent, informed online purchasing decisions. This aligns with the findings of Morgan, Huang and Trinh (2019) who emphasised that digital financial literacy is anticipated to become a more significant element of education in the Information Age. Hui and Dan (2024), re-emphasise the importance of clear explanations due to the professional nature of financial English. Quick access and reliable information were identified as key determinants of information channel choice.

Additionally, respondents' reliance on bank branches and interpersonal sources, such as family and friends, combined with their suggestion to include customer reviews on bank websites, highlights the need for further research into information-seeking, use, sharing, and creation in relation to digital financial services. Incorporating the concept of information creation, as proposed by Savolainen and Thomson (2022), would provide further insights into the influence of consumer-generated information on purchase decision-making.

By addressing the research questions outlined in this thesis, this study has presented new and original insights into the information behaviour of UK retail banking customers. It has uncovered the barriers and drivers of online purchasing and identified key antecedents of trust. Several theoretical and practical recommendations have been proposed to advance academic understanding and enhance customer experiences in the UK financial services sector, and, more specifically, in the retail banking sector.

6.9 Reflective Account

6.9.1 Evolving as a Researcher

Engaging in this research journey has been both intellectually rewarding and professionally enriching. Through designing, executing, and refining this study, I have gained a deeper appreciation for the rigor and discipline essential to academic research. One of the key skills I have developed is the ability to manage and synthesise information from a large volume of academic literature, effectively filtering the most relevant contributions to shape a coherent and well-rounded literature review. I have also learned to navigate methodological challenges, critically evaluate data, and adapt strategies in response to unforeseen setbacks. These experiences have strengthened my analytical and problem-solving skills while reinforcing the importance of ethical research practices. Notably, the value of flexibility, especially when initial approaches failed to yield valid responses, has been a key lesson, alongside with the confidence gained from overcoming such challenges with perseverance.

Working concurrently in industry, I have found this academic experience highly transferable. The skills I have developed, such as data-driven decision-making, critical analysis, and effective communication, are directly applicable to my professional practice. More importantly, this journey has fostered a productive cross-pollination between theory and practice. Insights from industry informed a research approach grounded in real-world relevance, while the academic process has broadened my perspective on strategic thinking and innovation in the workplace. Looking ahead, I feel better equipped to contribute meaningfully to both domains, bridging scholarly insights and industry application with increased confidence and clarity.

Adopting a positivist stance, I employed a quantitative methodology aimed at identifying objective patterns and measurable outcomes. While this approach yielded valuable, generalisable findings, my evolving experience has highlighted the benefits of a mixed-methods design. If I were to undertake this research again, I would incorporate qualitative methods, such as interviews, to gain deeper and more detailed insights. Integrating an interpretivist perspective alongside the positivist framework would allow for closer engagement with participants' lived experiences, enriching the understanding beyond quantitative data and offering a more comprehensive view of the research topic.

6.9.2 Navigating the Personal Journey

Balancing the demands of four young children, a full-time career in UK banking, and the pursuit of a PhD has been a profound challenge. It's a journey where the path often felt isolating, with no visible examples of mothers navigating the same route to walk alongside. This experience highlights the need for greater inclusiveness and diversity in both academia and industry. Despite the clear benefits of collaboration between academia and industry, awareness and support for the uptake of part-time PhD studies within the corporate sector remain virtually non-existent. This research has actively sought to raise awareness of the value of such initiatives, drawing parallels to apprenticeship and internship programmes where industries and universities collaborate to drive innovation. However, internship and apprenticeship opportunities are limited to younger cohorts. Extending such opportunities to include part-time PhD studies could foster knowledge sharing, intergenerational collaboration and equity, addressing age-based discrimination and reducing turnover.

By embarking on this journey and sharing the resulting learning, experiences, and insights, this research champions inclusiveness and aims to inspire others, particularly women and professionals within the industry, to pursue lifelong learning while balancing personal and professional responsibilities. It also indirectly advocates for flexible and supportive policies that foster the development of future women leaders. To help raise awareness of part-time PhD study, the researcher volunteered and delivered two workplace presentations related to this study (see section 1.10: Publications and Presentations). Figure 6.3 represents the researcher's conceptualization of the unique journey, an insight and inspiration to working parents considering a PhD. The QuintaForce covers the five competing forces of PhD study (P), professional work (W), family commitments (F), personal health (H) and social obligations (S). *"It always seems impossible until it's done."* — Nelson Mandela.

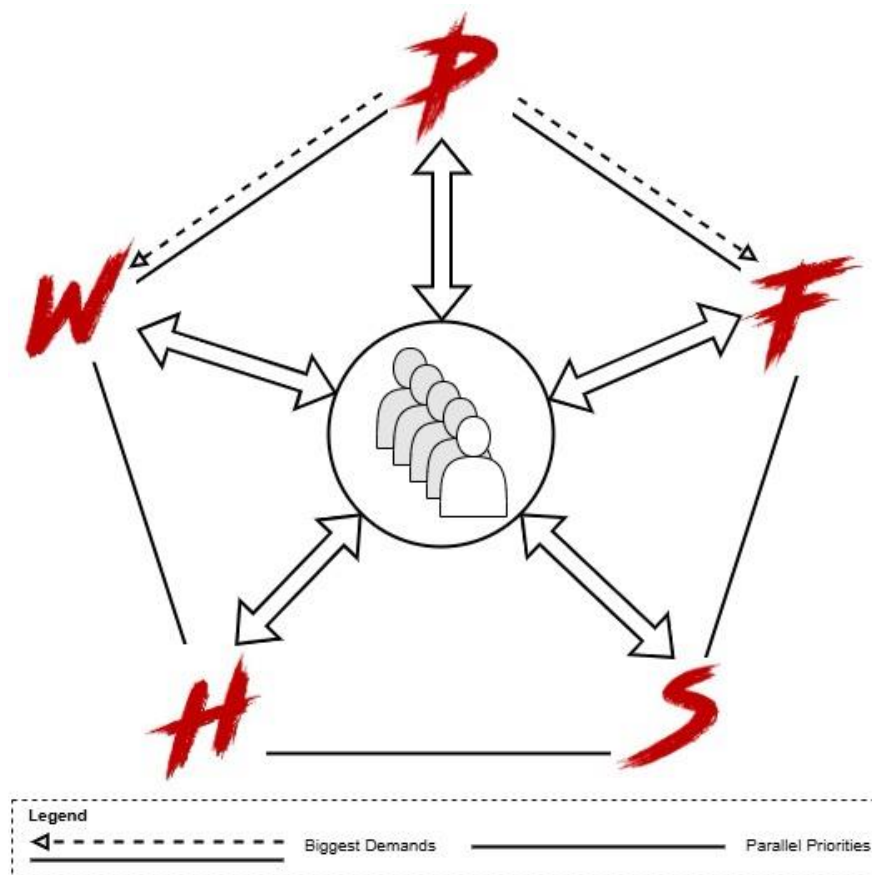


Figure 6.3: The QuintaForce model of personal equilibrium

Source: Created by the author.

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APPENDICES

Appendix A: Confirmation of ethics approval

Ethics application has been approved



www-data@cis.strath.ac.uk

To Gertrude Ugwu

You forwarded this message on 14/03/2023 00:27.

Hello,

Your ethics application "Information Seeking Behaviour of UK Retail Banking Consumers Towards Online Purchase Adoption: An Integrated UTAUT2 Model" (ID: 2145) has been approved.

URL: <https://local.cis.strath.ac.uk/wp/extras/ethics/index.php?view=2145>

CIS Ethics Approval System.

Appendix B: Information sheet and consent form

UK Retail Banking Consumers' Online Purchase Adoption

Thank you for agreeing to take part in this survey.

Topic of Research: This research seeks to understand the key factors affecting the adoption of online purchasing of retail banking products in the UK - using UTAUT2 model as the base theoretical framework for the investigation.

Researcher: Gertrude N. Ugwu, PhD student, University of Strathclyde, UK

Purpose of Research

I am conducting research to identify the factors influencing adoption of online purchasing within the context of UK consumer banking. Banks adopting digital business models has led to rapid branch closures with expectations that consumers purchase banking products and services online. However, due to the complex nature of financial products, some consumers may be apprehensive and have difficulties engaging in online purchasing of such products and services.

Through this research study, we hope to gain insights into the information behaviour of consumers and the motivating factors, the difficulties and expectations of consumers when using online channels for purchasing. Your honest response will help us evaluate and propose measures that will support consumers and mitigate against the current difficulties being faced especially, in this era of bank branch closures.

Procedure

During your participation in the survey, depending on your response to purchase channel, questions are customized to suit either an online or offline customer. You will be asked questions related to your preferred information sources, purchase channel, general internet use, your views, experiences and expectations when purchasing financial products online, if this applies to you. This will help us understand your preferences, factors motivating your choice of information sources and purchasing channel, how and what could be done more to encourage online purchasing of financial products. Some demographic questions are also included to help us gain insights into how these behaviours vary across certain demographics.

What data will be collected / How these will be used and managed

- Personal identifiable information / sensitive data will not be collected as part of this study. Where a participant chose to be added to the optional prize draw, their email

address will be collected for use in the prize draw but will not be used further for the purposes of this research work

- Any reports generated from the data collected will be used in the final thesis and for publications in scientific journals
- Data collected may be referenced or used in future related research All information provided will be kept strictly confidential
- Any identifiable data will be removed in strict compliance with the UK Data Protection Act / the General Data Protection Regulation
- Data collected will be stored in the university of Strathclyde owned servers, password protected and accessible only by the research team member

Length of Participation: It is estimated that this survey will take about 15 minutes to complete.

Incentive

There will be a special prize draw at the end of a four-month data collection phase (May - August 2023). This will comprise three Amazon gift e-vouchers. Participants could win one of three vouchers worth £75, £50, or £25 each. If you would like to be included in this unique prize draw, please include your email address at the end of the survey - this is optional.

For any questions or further clarifications, please contact me, my supervisors or the department using the details below.

Researcher

Gertrude Ugwu, PhD Student

Department of Computer and Information Sciences

University of Strathclyde

Livingstone Tower, 26 Richmond Street, Glasgow G1 1XH, Scotland, UK

Email: gertrude.ugwu@strath.ac.uk

Supervisors

1. Prof. Gobinda Chowdhury - Email: gobinda.chowdhury@strath.ac.uk

2. Dr Michael Harker - Email: michael.harker@strath.ac.uk

Departmental **Contact**

Email: ethics@cis.strath.ac.uk

Declaration and Consent

By proceeding to take this survey, you acknowledge the following:

- You have read the information provided above and have understood the purpose of the survey
- Your participation in the study is entirely voluntary
- You are aware that you may choose to terminate your participation at any time for any reason
- You are at least 18 years of age
- You are physically and mentally capable to solely make a financial decision

☐ Yes, I consent

☐ No, I do not consent

Appendix C: The study questionnaire

Appendix C.1: Participant screening and eligibility questions

Residence

Are you predominantly resident in the UK

☐ Yes

☐ No

Product Purchased

Do you have any of these products with a UK retail bank?

Current Account, Savings Account, Personal Loan, Credit Card or Mortgage

☐ Yes

☐ No

Appendix C.2: Online customers' questionnaire

Part 1a: Demographics

Age

Which of the following best describes your age bracket?

- ☐ 18-20
- ☐ 21-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61-70
- ☐ 71+
- ☐ Prefer not to say

Gender

What best describes your gender identity?

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Prefer not to say

Internet Experience

How many years of experience do you have using the internet to purchase products and services.

- ☐ None
- ☐ Less than 1 year
- ☐ 1-2 years
- ☐ 3-5 years
- ☐ 6-8 years
- ☐ 9-10 years
- ☐ More than 10 years
- ☐ Prefer not to say

Financial Knowledge

Are you familiar with consumer financial products and the market?

- ☐ Yes
 - ☐ No
 - ☐ Prefer not to say
-

Location

Which of the following best describes your permanent residential location?

- ☐ Scotland - Urban
- ☐ Scotland - Rural
- ☐ England - Urban
- ☐ England - Rural
- ☐ Wales - Urban
- ☐ Wales - Rural
- ☐ Northern Ireland - Urban
- ☐ Northern Ireland - Rural
- ☐ Prefer not to say

Income

Which of the following best describes your total annual income (before tax & deductions)?

- ☐ Below £10,000
- ☐ £10,001 to 20,000
- ☐ £20,001 to 30,000
- ☐ £30,001 to 40,000
- ☐ £40,001 to 50,000
- ☐ £50,001 to 60,000
- ☐ £60,001 to 70,000
- ☐ Above £70,000
- ☐ Prefer not to say

Part 1b: Products and Online Profile

Product Types

Please indicate the products you purchased from the list below. Select all that apply.

- ☐ Current Account
- ☐ Savings Account
- ☐ Personal Loan
- ☐ Credit Card
- ☐ Mortgage (Re-mortgage)

Purchase Channel

Did you purchase any of these products online?

- ☐ Yes
- ☐ No

Online Activity

Please indicate how frequently you use the internet for the following services? Never, Rarely = 1-6 times per year, Sometimes = 1-2 times per month, Often = 3-6 times per month, Always = At least once per week

	Never	Rarely	Sometimes	Often	Always
Online banking services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of insurance services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of travel tickets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Payment of bills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of groceries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of household products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of clothing/fashion products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selling of products and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information seeking / sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part 2a: Online Consumer Information Sources

Click and drag to rank your most preferred information sources & channels which you consult before purchasing a banking product or service. **[1 = most preferred and 7 = least preferred]**

- _____ Retail banking websites
- _____ Social media networking sites
- _____ Visiting bank branches
- _____ Internet search engines
- _____ Financial consultants and advisors
- _____ Advice from family, friends and colleagues
- _____ Online Aggregators (For example, MoneySuperMarket, MoneyExpert and others)

Click and drag to rank the reasons behind your choice of information source/channel. [1 = most preferred and 5 = least preferred]

- _____ Quick access to required information
- _____ Availability of required information
- _____ Reliability of information provided
- _____ Clarity of information
- _____ Internet safety concerns

Part 2b: Online Consumer Information Needs

In order to understand your information needs, please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I research product information before purchasing online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I look for price information and compare prices before purchasing online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I review the brand reputation before purchasing online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I research post-sales support available to customers before purchasing online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To understand your experiences and perceptions on the information provided by UK retail banks on their websites, please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Overall, the product information available on bank websites met my information needs and supported my decision to purchase online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, it was easy to find all the required product information from bank websites and this supported my decision to purchase online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, it was easy to understand the product information available on bank websites without speaking to an advisor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, it was easy to understand the product information available on bank websites with little or no financial knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I trust the product information available on bank websites when researching for a product before purchasing online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional Information

In your opinion, what additional information should UK retail banks provide customers on their websites to encourage the adoption of online purchasing.

Part 2c: Online Consumers Trust in the Institution and Online Purchasing

The following statements are designed to understand your level of trust on online purchasing of consumer banking products. Please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I believe that UK retail banks keep their promises and commitments as advertised when I purchase consumer banking products and services online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that UK retail banks have the technical expertise and infrastructure needed to provide customers with safe and secure online transactions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I only trust well-known brands when purchasing consumer banking products and services online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I only trust banks with physical presence when purchasing consumer banking products and services online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on my experience of purchasing online from UK retail banks, I know online purchase is trustworthy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In your opinion, what else can UK retail banks do to increase customers' trust towards the adoption of online purchasing

Part 2d: Online Consumer Purchase Intention UTAUT2

The following statements are meant to understand the factors that influence your decision to purchase online. Please indicate your level of disagreement/ agreement with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I find purchasing through retail banking websites useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchasing through retail banking websites is convenient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchasing through retail banking websites is quicker for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My interaction with retail banking websites for online purchasing has always been clear and understandable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it easy purchasing through retail banking websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who are important to me think that I should purchase consumer banking products online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who influence my behaviour think that I should purchase consumer banking products online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the resources required to purchase retail banking products online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the necessary knowledge needed to purchase retail banking products online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get help from online customer support if I face difficulties purchasing retail banking products online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I save money through purchasing retail banking products online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Purchasing through retail banking websites offer good value for money.

☐☐☐☐☐

I must use retail banking websites for purchasing of banking products.

☐☐☐☐☐

Purchasing through retail banking websites has become natural to me.

☐☐☐☐☐

Please share your thoughts on what you believe would encourage you to keep purchasing online, as well as what would discourage you from purchasing online.

Prize Draw

Please enter your email address if you would like to be entered into a drawing for a chance to win one of three £75, £50, or £25 Amazon e-gift cards.

Appendix C.3: Offline customers' questionnaire

Part 1a: Demographics

Age

Which of the following best describes your age bracket?

- ☐ 18-20
- ☐ 21-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61-70
- ☐ 71+
- ☐ Prefer not to say

Gender

What best describes your gender identity?

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Prefer not to say

Internet Experience

How many years of experience do you have using the internet to purchase products and services.

- ☐ None
- ☐ Less than 1 year
- ☐ 1-2 years
- ☐ 3-5 years
- ☐ 6-8 years
- ☐ 9-10 years
- ☐ More than 10 years
- ☐ Prefer not to say

Financial Knowledge

Are you familiar with consumer financial products and the market?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

Location

Which of the following best describes your permanent residential location?

- ☐ Scotland - Urban
- ☐ Scotland - Rural
- ☐ England - Urban
- ☐ England - Rural
- ☐ Wales - Urban
- ☐ Wales - Rural
- ☐ Northern Ireland - Urban
- ☐ Northern Ireland - Rural
- ☐ Prefer not to say

Income

Which of the following best describes your total annual income (before tax & deductions)?

- ☐ Below £10,000
- ☐ £10,001 to 20,000
- ☐ £20,001 to 30,000
- ☐ £30,001 to 40,000
- ☐ £40,001 to 50,000
- ☐ £50,001 to 60,000
- ☐ £60,001 to 70,000
- ☐ Above £70,000
- ☐ Prefer not to say

Part 1b: Products and Online Profile

Product Types

Please indicate the products you purchased from the list below. Select all that apply.

- ☐ Current Account
- ☐ Savings Account
- ☐ Personal Loan
- ☐ Credit Card
- ☐ Mortgage (Re-mortgage)

Purchase Channel

Did you purchase any of these products online?

- ☐ Yes
- ☐ No

Online Activity

Please indicate how frequently you use the internet for the following services? Never, Rarely = 1-6 times per year, Sometimes = 1-2 times per month, Often = 3-6 times per month, Always = At least once per week

	Never	Rarely	Sometimes	Often	Always
Online banking services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of insurance services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of travel tickets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Payment of bills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of groceries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of household products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of clothing/fashion products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selling of products and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information seeking / sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part 2a: Offline Consumer Information Sources

Click and drag to rank your most preferred information sources & channels which you consult before purchasing a banking product or service. [1 = most preferred and 7 = least preferred]

- _____ Retail banking websites
- _____ Social media networking sites
- _____ Visiting bank branches
- _____ Internet search engines
- _____ Financial consultants and advisors
- _____ Advice from family, friends and colleagues
- _____ Online Aggregators (For example, MoneySuperMarket, MoneyExpert and others)

Click and drag to rank the reasons behind your choice of information source/channel. [1 = most preferred and 5 = least preferred]

- _____ Quick access to required information
- _____ Availability of required information
- _____ Reliability of information provided
- _____ Clarity of information
- _____ Internet safety concerns

Part2b: Offline Consumer Information Needs

In order to understand your information needs, please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I research product information before purchasing in branch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I look for price information and compare prices before purchasing in branch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I review the brand reputation before purchasing in branch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I research post-sales support available to customers before purchasing in branch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To understand your experiences and perceptions on the information provided by UK retail banks on their websites, please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Overall, the product information available on bank websites met my information needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, it was easy to find all the required product information from bank websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, it was easy to understand the product information available on bank websites without speaking to an advisor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, it was easy to understand the product information available on bank websites with little or no financial knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I trust the product information available on bank websites when researching for a product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional Information

In your opinion, what additional information should UK retail banks provide customers on their websites to encourage the adoption of online purchasing.

Part 2c: Offline Consumers Trust in the Institution and Online Purchasing

The following statements are designed to understand your level of trust on online purchasing of consumer banking products. Please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I believe that UK retail banks keep their promises and commitments as advertised when I purchase consumer banking products and services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that UK retail banks have the technical expertise and infrastructure needed to provide customers with safe and secure online transactions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I only trust well-known brands when purchasing consumer banking products and services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that purchasing online through UK retail banking websites is trustworthy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In your opinion, what else can UK retail banks do to increase customers' trust towards the adoption of online purchasing

Part 2d: Offline Consumer Purchase Intention

The following statements are meant to determine whether you intend to use the internet for future purchasing. Please indicate your level of disagreement/agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I plan to purchase through the retail banking websites in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I envisage purchasing through retail banking websites in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please share your thoughts on what you believe would encourage you to purchase online, as well as what discourages you from purchasing online.

Prize Draw

Please enter your email address if you would like to be entered into a drawing for a chance to win one of three £75, £50, or £25 Amazon e-gift cards.

Appendix D: Coding sheet based on granular data as collected

Gender	Level 1	Level 2	Total		Compare Diff	Level 2 Coding
Male	1	1	192			192
Female	2	2	181			181
Non-binary	3	3	3			
Undisclosed	4	4	1			
Age						
18-20	1	1	241			241
21-30	2					
31-40	3					
41-50	4	2	136			136
51-60	5					
61-70	6					
71+	7					
Internet experience						
None	1	0	1			
< 1 Year	2	1	52			
1-2	3					
3-5	4					
6-8	5	2	322			
9-10	6					
> 10	7					
Undisclosed	8	3	2			
Location						
England - Rural	1	1	87	Rural		
England - urban	2	2	287	Urban		
Northern Ireland - Rural	3	1				
Northern Ireland - urban	4	2				
Scotland - Rural	5	1				
Scotland - urban	6	2				
Wales - Rural	7	1				
Wales - urban	8	2				
Undisclosed	9	3	3	undisclosed		
Income						
Below £10,000	1	1	90			90
£10,001 to 20,000	2					
£20,001 to 30,000	3	2	264			264
£30,001 to 40,000	4					
£40,001 to 50,000	5					
£50,001 to 60,000	6					
£60,001 to 70,000	7					
Above £70,000	8					
Prefer not to say	9	3	23			23
Financial Knowledge						
No	1	1	51			51
Yes	2	2	319			319
Undisclosed	3	3	7			7

Appendix E: Coding for two-group analysis

Gender	Level 1	Level 2	Total	Compare Diff	Level 2 Coding
Male	1	1	192		192
Female	2	2	181		181
Non-binary	3	3	3		
Undisclosed	4	4	1		
Age					
18-20	1	1	241		241
21-30	2				
31-40	3				
41-50	4	2	136		136
51-60	5				
61-70	6				
71+	7				
Internet experience					
None	1	0	1		
< 1 Year	2	1	52		
1-2	3				
3-5	4				
6-8	5	2	322		
9-10	6				
> 10	7				
Undisclosed	8	3	2		
Location					
England - Rural	1	1	87	Rural	
England - urban	2	2	287	Urban	
Northern Ireland - Rural	3	1			
Northern Ireland - urban	4	2			
Scotland - Rural	5	1			
Scotland - urban	6	2			
Wales - Rural	7	1			
Wales - urban	8	2			
Undisclosed	9	3	3	undisclosed	
Income					
Below £10,000	1	1	90		90
£10,001 to 20,000	2				90
£20,001 to 30,000	3	2	264		264
£30,001 to 40,000	4				
£40,001 to 50,000	5				
£50,001 to 60,000	6				
£60,001 to 70,000	7				
Above £70,000	8				
Prefer not to say	9	3	23		23
Financial Knowledge					
No	1	1	51		51
Yes	2	2	319		319
Undisclosed	3	3	7		7
<div> < > ... Current Binary Classification 1st Coding of Variables 3-Tier Coding & Validation n377 2-Tier Binary Coding </div>					

Appendix F: Coding for three-group analysis

Gender	Code	Count					Female	Male	Total	Non-Binary + Undisclosed	Gross Total
Male	1	192					181	192	373	4	377
Female	2	181									
Non-binary	3	3									
Undisclosed	4	1									
Location							Rural	Urban	Undisclosed		
England - Rural	1	51					51	126	3		
England - urban	2	126					31	8			
Northern Ireland - Rural	3	0					5	147			
Northern Ireland - urban	4	8					0	6			
Scotland - Rural	5	31					87	287	3		377
Scotland - urban	6	147				Aggregated Code	1	2	3		
Wales - Rural	7	5									
Wales - Urban	8	6									
Undisclosed	9	3									
Age							Young/Early Adulthood	Middle Adulthood	Late Adulthood		Gross Total
18-20	1	7					241	119	17		377
21-30	2	96				Aggregated Code	1	2	3		
31-40	3	138									
41-50	4	74									
51-60	5	45									
61-70	6	13									
71+	7	4									
Income							Low	Mid	High	Undisclosed	Gross Total
Below £10,000	1	31	Low Income	148			148	150	56	23	377
£10,001 to 20,000	2	59	Mid Income	150	Aggregated Code	1	2	3	4		
£20,001 to 30,000	3	58	High Income	56							
£30,001 to 40,000	4	75	Undisclosed	23							
£40,001 to 50,000	5	46									
£50,001 to 60,000	6	29									
£60,001 to 70,000	7	23									
Above £70,000	8	33									
Prefer not to say	9	23									
Internet Experience							Beginner	Intermediate	Advanced	Undisclosed	None
None	1	1					18	81	275		
< 1 Year	2	6				Aggregated Code	1	2	3	4	0
1-2	3	12									
3-5	4	34									
6-8	5	47									
9-10	6	37									
> 10	7	238									
Undisclosed	8	2									

Appendix G: Original outputs from SPSS

Frequencies

Notes

Output Created		23-NOV-2024 22:53:28
Comments		
Input	Data	C:\Users\rqb20187\OneDrive - University of Strathclyde\Documents\Gertrude's Documents\PhD\01. Survey Data\SPSS\CustomerOnlinePurchaseIntention_SPSS_v0.2.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	377
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Residence Age Internet_Experience Location Income Purchased_Online Gender Financial_Knowledge /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Statistics

		Residence	Age	Internet_Experience	Location	Income	Purchased_Online
N	Valid	377	377	377	377	377	377
	Missing	0	0	0	0	0	0

Statistics

		Gender	Financial_Knowledge
N	Valid	377	377
	Missing	0	0

Frequency Table

Residence

	N	%
Yes	377	100.0%

Age

	N	%
18-20 Years	7	1.9%
21-30 Years	98	25.5%
31-40 Years	138	36.6%
41-50 Years	74	19.6%
51-60 Years	45	11.9%
61-70 Years	13	3.4%
71+ Years	4	1.1%

Internet_Experience

	N	%
None	1	0.3%
<1 Year	6	1.6%
1-2 Years	12	3.2%
3-5 Years	34	9.0%
6-8 Years	47	12.5%
9-10 Years	37	9.8%
>10 Years	238	63.1%
Undisclosed	2	0.5%

Location

	N	%
England - Rural	51	13.5%
England - Urban	126	33.4%
Northern Ireland - Urban	8	2.1%
Scotland - Rural	31	8.2%
Scotland - Urban	147	39.0%
Wales - Rural	5	1.3%
Wales - Urban	6	1.6%
Undisclosed	3	0.8%

Income

	N	%
Below £10,000	31	8.2%
£10,001 to 20,000	59	15.6%
£20,001 to 30,000	58	15.4%
£30,001 to 40,000	75	19.9%
£40,001 to 50,000	46	12.2%
£50,001 to 60,000	29	7.7%
£60,001 to 70,000	23	6.1%
Above £70,000	33	8.8%
Undisclosed	23	6.1%

Purchased_Online

	N	%
No	49	13.0%
Yes	328	87.0%

Gender

	N	%
Female	181	48.0%
Male	192	50.9%
Non-Binary	3	0.8%
Undisclosed	1	0.3%

Financial_Knowledge

	N	%
No	51	13.5%
Yes	319	84.6%
Undisclosed	7	1.9%

Descriptives

Notes

Output Created		23-NOV-2024 22:53:55
Comments		
Input	Data	C: \\Users\lrb20187\OneDrive - University of Strathclyde\Documents\Gertrude's Documents\PhD\01. Survey Data\SPSS\CustomerOnlinePurchaseIntention_SPSS_v0.2.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	Purchased_Online
	N of Rows in Working Data File	377
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=OA1_Banking_Services OA2_Insurance_Services OA3_Travel_Tickets OA4_Bills_Payment OA5_Groceries_Purchase OA6_Household_Products OA7_Clothing_Fashion OA8_Sales_ProdServ OA9_Information OA10_Social_Media /STATISTICS=MEAN STDDEV.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Descriptive Statistics

Purchased_Online		N	Mean	Std. Deviation
No	OA1_Banking_Services	49	4.14	.957
	OA2_Insurance_Services	49	2.94	1.405
	OA3_Travel_Tickets	49	3.67	1.144
	OA4_Bills_Payment	49	4.04	.912
	OA5_Groceries_Purchase	49	2.55	1.156
	OA6_Household_Products	49	3.43	.890
	OA7_Clothing_Fashion	49	3.53	.915
	OA8_Sales_ProdServ	49	2.73	1.186
	OA9_Information	49	4.33	.801
	OA10_Social_Media	49	4.33	.922
	Valid N (listwise)	49		
Yes	OA1_Banking_Services	328	4.39	.839
	OA2_Insurance_Services	328	3.23	1.314
	OA3_Travel_Tickets	328	3.56	1.137
	OA4_Bills_Payment	328	4.17	.852
	OA5_Groceries_Purchase	328	2.98	1.183
	OA6_Household_Products	328	3.47	.928
	OA7_Clothing_Fashion	328	3.43	.974
	OA8_Sales_ProdServ	328	2.72	1.242
	OA9_Information	328	4.18	.954
	OA10_Social_Media	328	4.12	1.201
	Valid N (listwise)	328		