

**EARNINGS QUALITY (EQ),
ISLAMIC SOCIAL DISCLOSURE (ISCR),
AND ON THE ASSOCIATION BETWEEN
EQ & ISCR:
EMPIRICAL EVIDENCE FROM
MALAYSIAN PUBLIC LISTED COMPANIES**

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DECLARATION

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ABSTRACT

This thesis integrates *Shariah* Law as an additional layer of regulations and Islamic Perspective of Accounting (IPA) framework to examine of the relation between Islamic Social Disclosure (ISCR) and Earnings Quality (EQ) of Malaysian public-listed companies.

Five empirical studies were undertaken. **First**, accruals quality models suggested by previous researchers in the UK and the USA (Jones, 1991; Modified Jones, 1995; Dechow and Dichev 2002; McNichols, 2002) have been examined and reviewed in the new dataset; and McNichols model has been identified as the model that could accurately measure the quality of earnings reported. **Second**, the level of EQ has been examined. The multivariate analysis revealed that additional regulatory and cultural factors, and specifically the ethnicity of the chairperson, influenced the level of EQ. It was also found that there were variations in the level of EQ from year 2000 to year 2007. The largest contribution to this variation in year 2007 originated from the Delisted and Listed (DLL) group of companies. **Third**, the level of ISCR has been investigated and on average, the Product and Services theme scored the highest for disclosure (63%), followed by the Environment theme (55%), Community theme (39%), and Employees theme (27%). **Fourth**, the same range of factors tested to examine EQ has been specifically investigated against the ISCR score. The variables corresponding to institutional investors, top-ten shareholders, size of auditor and firm's involvement in foreign activities had a significant relationship with the ISCR. **Fifth**, the relationship between EQ and ISCR was examined. The results from the two-stage least squares (2SLS) method of analyses provided evidence that firms with poor earnings quality were more likely to disclose more social information.

The contributions of this study include: i) a new research setting provides new research evidence on the effect of regulation regarding the EQ and ISCR issues; ii) the McNichols model and the modified ISCR checklist could be used by the stakeholders or other researchers to assess the situation of the Malaysian companies; iii) when the IPA framework is incorporated in the discussions together with Institutional theory, Environmental Determinism theory, Agency theory, Signalling theory, Stakeholder theory, and Legitimacy theory, it contributes to the richness of the existing literature; and iv) the findings regarding the relationship between EQ and ISCR indicates that the delivery of financial and non-financial information could still be improved to demonstrate the sense of responsibility and accountability of the management towards God (*Allah*) and towards the stakeholders.

ABBREVIATIONS

2SLS	: Two stage least square
AAOIFI	: Accounting and Auditing Organisation for Islamic Financial Institutions
ADR	: Additional Regulation
AP	: Accounts Payable
AQ	: Accruals Quality
AR	: Accounts Receivable
ASV	: Significant Values from ANOVA table according to Industry-Specific Regression
AUD	: Auditor Size
BNM	: Bank Negara Malaysia
BOD	: Board of Director
CA	: Current Assets
CCM	: Companies Commission of Malaysia
CFO	: Cash Flow
CL	: Current Liabilities
CMPLX	: Business Complexity
Const	: Construction
CONVTSM	: Conservatism
CP	: Consumer Products
CSR	: Corporate Social Reporting
CTY	: Community
CULT	: Cultural Factors
DD	: Dechow & Dichev Model
DEPN	: Depreciation
DLL	: Listed and Delisted Companies
DW	: Durbin-Watson
ECDB	: Ethnic composition of directors on the Board
EDAB	: Qualification of Directors in Accounting/Business
EDIS	: Qualification of Directors in Islamic Studies
EM	: Earnings Management
EMD	: Ethnicity of Managing Director
EOC	: Ethnicity of Chairperson
EOS	: Ethnic ownership structure
EQ	: Earnings Quality
EYS	: Employees
FIA	: Futures Industry Act 1993
FIC	: Foreign Investment Committee
FMB	: Family Members on Board
FRNX	: Foreign Activities
FV	: F-Values according to Industry-Specific Regression
GDP	: Gross Domestic Product

GNI	: Gross National Income
ICM	: Islamic Capital Market
ICMD	: Islamic Capital Market Department
IFSB	: Islamic Financial Services Board
IIFM	: International Islamic Financial Market
INDIV	: Individualism
INDS	: Type of Industry
INSIV	: Institutional Investors
Inv	: Inventory
IOSCO	: International Organisation of Securities Commission
IP	: Industrial Products
IPA	: Islamic Perspective of Accounting
IPO	: Initial Public Offering
IRA	: International Islamic Rating Agency
ISCR	: Islamic Social Disclosure
ITV	: Islamic Terminology and Values (ITV)
JAKIM	: Department of Islamic Development Malaysia
KLSE	: Kuala Lumpur Stock Exchange
LMC	: Liquidity Management Centre
MAE	: Mean Absolute Forecasting Error
MASC	: Masculinity
MESDAQ	: Malaysian Exchange of Securities Dealing and Automated Quotation
MIFC	: Malaysian International Islamic Financial Centre
MJM	: Modified Jones Model
MRV	: Market-related Variables
MSE	: Mean Square Forecasting Error
MYR	: Malaysian Ringgit
NIBE	: Net Income Before Extraordinary Items
NVRM	: Environment
OSV	: Ownership-structure Variables
Plant	: Plantations
POWER	: Power Distance
PPE	: Property, Plant and Equipment
Profit	: Profitability
PROFLSM	: Professionalism
Props	: Properties
PS	: Products and/or Services
R	: R Square values according to Industry-Specific Regression
REIT	: Real Estate Investment Trust
Rev	: Revenue
SAC	: <i>Shariah</i> Advisory Council
SC	: Securities Commission
SCA	: Securities Commission Act 1993

SCC	: <i>Shariah-compliant companies</i>
SD	: Standard Deviation
SECR	: Secrecy
SIA	: Securities Industry Act 1983
SICDA	: Securities Industry (Central Depositories) Act 1991
SID	: Securities Issues Department
SNC	: <i>Shariah Non-compliant Companies</i>
SPV	: Special Purpose Vehicle
SRQ	: Specific Research Question
SSB	: <i>Shariah Supervisory Board</i>
STDEBT	: Short Term Debts
TAC	: Total Accruals
TCA	: Total Current Accruals
TP	: Tax Payable
TS	: Trading & Services
TTSH	: Top ten shareholders
UK	: United Kingdom
UNC	: Uncertainty
UNFRM	: Uniformity
UPV	: Underlying Philosophy and Values
USA	: United States of America
WC	: Working Capital
ZKT	: <i>Zakat</i>

CHAPTER 1

INTRODUCTION

1.1 Introduction

The purpose of this study is to investigate alternative ways of assessing public listed companies. Due to the growing demand for investments in Malaysian companies that comply with *Shariah* principles, and the additional regulations imposed on these *Shariah*-compliant companies, the study adduces empirical evidence from two different segments that are important for stakeholders to examine, namely earnings quality (EQ) and social disclosure in the Islamic context (ISCR). In this chapter, **Section 1.2** presents the background of the study and **Section 1.3** discusses the importance of and motivation for the present study. **Section 1.4** explains the research objectives. **Section 1.5** discusses the research methodology. **Section 1.6** discusses in brief the research method, specific research questions and the method of investigation. In this section, the main results are also presented. **Section 1.7** justifies the reasons for using annual reports in the study. Next, in **Section 1.8** the contribution of the study to the profession is presented. The scope and limitations of the study are provided in **Section 1.9**; and finally, **Section 1.10** concludes the chapter with an outline of the organisation of the thesis.

1.2 Background of the Present Study

In Malaysia, up until recently, the only Islamic investment opportunity available to Muslim investors was the Pilgrims' Fund Board (*Lembaga Tabung Haji*) (Capital Market Development in Malaysia: History and Perspective 2004). However, the late 1990s witnessed remarkable progress in the Islamic financial services industry in the country. Starting with Islamic banking, followed by Islamic insurance (*Takaful*), the Islamic financial services industry now offers a platform for socially responsible and ethical investments. These investments are offered by companies that comply with

religious and ethical underpinnings; in other words, they are companies that are *Shariah*-compliant (hereafter *Shariah*-compliant companies, or SCCs).

SCCs are accredited by the *Shariah* Advisory Council (SAC) under the Securities Commission, Malaysia. The SAC differentiates the companies listed on Bursa Malaysia into *Shariah*-compliant companies and non-*Shariah*-compliant companies. Since Islamic investors are permitted to deal only with investment activities that are in accordance with Islamic principles, those interested in investing in *Shariah*-compliant companies may do so by referring to the list issued in the Malaysian Islamic Capital Market (ICM) Bulletin prepared by the Securities Commission, Malaysia.

The Islamic Capital Market (ICM) has been an important part of the overall agenda for capital market development in Malaysia. As one approach to raise capital, it also facilitates the expansion of products and services in the ICM. This enables more effective mobilisation of Islamic funds; strengthens tax, accounting, and regulatory frameworks for ICM; and enhances international value recognition of the ICM (Anwar, 2005). As at the end of 2007, 519 or 81% of the 637 securities listed on Bursa Malaysia were classified as *Shariah*-approved; the total Islamic Bond Market grew at a compound annual growth rate (CAGR) of 39%; and there were 134 Islamic Unit Trust Funds with a net asset value of US\$5.2 billion (The Islamic Capital Market, 2007; Kamil, 2007).

During the earlier stages of the ICM, the target was Muslim investors, because they represent 60 per cent of the total Malaysian population. There is a potential for such a market segment to grow, especially among those only interested in channelling their savings into investments that are considered permissible in Islam. By the end of the 1990s, investments were being received not only from local investors but also from foreign investors. Furthermore, investments received were not limited to Islamic countries and Muslim investors, but there were also investments from investors of different faiths (Capital Market Development in Malaysia: History and Perspective, 2004, p. 243).

Subsequently, it is incumbent upon investors to understand the nature of the company they invest in and they should always keep themselves well informed of the detailed activities the company is involved with. Moreover, as investors, and specifically Islamic investors, they have an important role to ensure the company they invest in is capable of fulfilling all the *Shariah* requirements and that all the systems in place are working together to demonstrate company accountability towards God (*Allah*) and society. For this reason and to achieve this aim, various mediums of communication could be used by investors to obtain the information, and for management to disseminate the information about their companies. One of many ways is through annual reports, where all the financial and non-financial information can be obtained (Day, 1986; Harahap, 2003; Ho & Wong, 2001; Lang & Lundholm, 1993; Most & Chang, 1979; Vergoossen, 1993).

Investors, creditors, government bodies, and managers use the annual reports for various purposes. For example, financial statements in the annual reports could be used to predict the future earnings of an organisation, to make important decisions, to determine and assess a company's current financial health, to evaluate business results for a previous period, and to reduce uncertainty. Healy and Wahlen (1999, p. 366) stated in their paper that the roles of financial reports include: to act as communication tools between companies and their stakeholders, to help the best-performing firms to distinguish themselves from the poor performers, to facilitate efficient resource allocations by stakeholders, and to enable informed stewardship decisions. However, from a negative perspective, managers may choose reporting methods and estimates that do not accurately reflect their firms' true performance.

The preparation of annual reports and financial statements of companies in Malaysia is currently governed by the rules and regulations stipulated by the Malaysian Accounting Standards Board, Financial Reporting Standards, General Accepted Accounting Principles, International Auditing Standards, Company Law, the Sarbanes-Oxley Act, and other conventional standards. Currently, these are not prepared specifically according to Islamic principles. Islamic principles are based on the requirements stated in the *Qur'an* (the word of *Allah*), *Hadith* (sayings,

approvals of the Prophet Muhammad, peace be upon Him (pbuH) during his lifetime), *Ijma'* (a consensus of Muslim scholars, which is applied only in the absence of an explicit answer to the issue in question), or from *Qiyas* (the analogical deductions from the other three sources for contemporary issues that are not directly mentioned in those sources but have similar characteristics as those that existed in the past) (Chapra, 2004; Gambling & Karim, 1991; Haniffa & Hudaib, 2002; ICM Fact Finding Report, 2004).

In terms of earnings reported, the current conventional accounting emphasis on shareholders' value encourages the problem of creative accounting as well as other social problems (Carruthers, 1995; Haniffa & Hudaib, 2002). Management officers often manipulate the financial statements for their own benefit. There is some evidence – and cases have been identified by stakeholders – that, with the current conventional accounting practices, some managers manipulate their companies' financial statements and do not provide enough information for the stakeholders to make important decisions. In Malaysia, from 2006 to 2007, at least three companies (GP Ocean, NasionCom, and Transmile Group) were reported to have manipulated their revenue figures for different purposes.

The case of Transmile Group Bhd provides evidence that, even though the financial statements of that company had been audited for the year ending 2005, the revenues for that year had been overstated by a total of MYR197 million. Hence, the quality of earnings reported and the information provided is questionable. This problem is not restricted to Malaysia: Hodge (2003) distributed questionnaires to academics from several universities in the US and among NAIC members and discovered that stakeholders' trust in audited financial statements and auditors' independence has been declining over time. Furthermore, the cases of Enron Corporation, WorldCom, Tyco International, Qwest Communications, and Xerox Corporation have evidenced the effect of creative accounting on the world economy.

On the other hand, when looking from the point of view of disclosure, if the preparation of the annual reports and financial statements is based on Islamic principles, it is possible that the management could disclose information that is vital in assisting users to make economic-religious decisions, and for management, external auditors, and accountants to demonstrate their fulfilment of rights and obligations, not just to the shareholders but to God (*Allah*), society, and themselves as well. Additionally, the information they provide should be free from material error and faithfully represented, without distorting what is measured, or the measurement process itself; and what is disclosed should not intentionally damage others (Haniffa & Hudaib, 2002).

The question arises of how the stakeholders, specifically investors who seek investments that fulfil their specific needs, could differentiate between the companies. Which information characteristics are important? How can earnings be measured to assist the stakeholders in making the right decision?

Further discussions on Malaysia, the economic environment, regulatory frameworks, and Islamic Capital Market are presented in Chapter 3.

1.3 Research Importance and Motivation for the Present Study

The main objective of this study is to explore the relation between earnings quality (EQ) and Islamic Social Disclosure (ISCR). However, it is also necessary for this study to examine the accruals quality models, the level of EQ, and the level of ISCR. All these analyses are motivated by the following reasons:

- a) Most of the literature on accruals quality models (AQ) and earnings quality (EQ) deals with companies in the developed countries, namely the United Kingdom and the United States of America. The situation in Malaysia has not been comprehensively examined. Due to the different standards adopted by the above Western countries, the models suggested by previous researchers from these countries (Jones, 1991; Modified Jones Model, 1995; Dechow &

Dichev, 2002; McNichols, 2002), are subject to further review on Malaysian data. Given this background, this study explores and examines the use of different approaches (models) in assessing the earnings quality of Malaysian public listed companies, and more specifically, companies that are not classified as banking and financial institutions.

- b) Most prior studies related to issues of earnings quality in Malaysia, such as Abdul Rahman and Mohamed Ali (2006), Haron and Atan (2010), and Ismail and Weetman (2010), all applied the Modified Jones (1995) model in their empirical studies. Therefore it appears to be important that this study first identifies which statistical approach is the most suitable earnings quality model to be applied in order to determine the level of earnings quality of Malaysian companies. In this study, the most suitable model is a model that could accurately measure the quality of reported earnings. Additionally, when statistical analysis is referred to, the overall precision of the model is preferred when a majority of its attributes make a strong and significant contribution to the model throughout the analyses.

- c) Another issue arising from the annual reports is that of disclosure practice. Previous researchers have examined mandatory disclosure and various voluntary disclosure issues, but a very limited number of studies have looked at social disclosure in the Islamic context with respect to Malaysian companies. In Malaysia, the Islamic Capital Market (ICM) differentiates Malaysian public listed companies as *Shariah*-Compliant (SCCs) and *Shariah*-Non-Compliant (SNCs) based on certain criteria (see Section 3.5). SCCs or SNCs are subject to similar regulation on auditing and accounting standards; however, the SCCs are required, in addition, to adhere to Islamic principles, namely *Shariah* Law. Therefore, in line with the existence of *Shariah*-compliant companies, the analysis on Islamic social disclosure in the annual reports is deemed to be important because the empirical findings of this study could help investors to appreciate the reality of the situation. Additionally, the suggestions proposed to the practitioners and regulators in Chapter 9, if

applied, could help them to examine the companies they are involved in when making economic-religious decisions.

- d) Previous studies related to social disclosure in the Islamic context, or Islamic social disclosure, have usually dealt with companies in Middle Eastern countries or those engaged in banking and financial activities. Because of the additional regulations imposed on SCCs, therefore, this thesis focuses on examining whether the depth of social disclosure in the Islamic context of SCCs and non-*Shariah*-compliant organisations is different in Malaysia.
- e) Subsequently, due to the different environment, and in line with the introduction of the Islamic Capital Market in Malaysia where the *Shariah* principles are imposed on certain companies, EQ, ISCR, and various variables suggested by previous researchers (namely, regulatory factors, cultural factors, ownership-structure variables, and market-related factors), are subject to further review using the Malaysian data.
- f) Previous studies have dealt with the association between earnings quality or earnings management and various types of disclosure, but not in the Islamic context. Therefore, in line with the existence of the Islamic Capital Market in Malaysia, with the additional regulations and requirements imposed on the SCCs, it seems important to examine the relationship between EQ and Islamic social disclosure so that it could provide evidence to the stakeholders on the credibility and quality of information provided to them by these companies.
- g) The literature on EQ and Disclosure presents discussions based on various theories, such as Agency theory, Institutional theory, and Signalling theory. Discussions of the same issue derived from the Islamic Perspective of Accounting (IPA) are still at a very minimal level. Based on the above discussions and with the same justifications, it appears to be significant and relevant to examine the situation based on IPA. The introduction of the Islamic Capital Market where *Shariah* principles are put into practice, and the

growing demands of investors with respect to investments in *Shariah*-compliant companies position this study as the first significant piece of research to include and discuss *Shariah* principles as one of the many regulations that may affect accounting decisions.

- h) In line with the focus of investors on Islamic products, there have also been growing demands from them regarding financial and non-financial information that complies with the *Shariah* principles. A high quality of financial information and sufficient disclosure on non-financial information help Muslim investors to fulfil their personal duties as vice-regents of *Allah*.

1.4 Research Objectives

The main purpose of this study was to contribute to the knowledge base of accounting practices by exploring the relation between earnings quality (EQ) and Islamic social disclosure (ISCR). Other objectives of this thesis are listed below.

Objective 1: Accruals Quality Model

The first objective was to identify which of the existing models was most suitable for Malaysian accounting data. This was achieved by reviewing the use of different approaches (models) in assessing earnings quality. This study reviewed and critically evaluated four different models, namely Jones (1991), Dechow and Dichev [DD] (2002), Modified Jones Model (1995), and McNichols (Modified Jones and DD Model) (2002). These models were generally applied in previous studies in relation to earnings management and earnings quality activities. First, this study identified whether different models provided similar or different results in associated testing. Next, it attempted to identify the model which was more significant and could be an important tool for stakeholders in Malaysia to assess a company's true performance before deciding whether they wished to get involved in any of the firm's activities.

Objective 2: Level of Earnings Quality of Malaysian Companies

The second objective was to identify the level of reported earnings by exploring the financial data of Malaysian public listed companies. The model identified in the analysis carried out to achieve Objective 1 was then used as a proxy for quality of earnings reported. It was used to investigate whether Malaysian public listed companies, specifically companies listed as ‘*Shariah-compliant companies*’ (SCC), were less involved in earnings management activity and therefore were of higher quality than other companies. Additionally, a number of variables were categorised into 5 groups: 1) regulatory variables, 2) cultural variables, 3) ownership structure variables, 4) market-related variables, and 5) corporate characteristics variables (as control variables); were examined to determine whether any of them were statistically significant in explaining variations in the quality of reported earnings.

Objective 3: Modified Islamic Social Disclosure Checklist

Objective 3 was to propose an alternative Islamic social disclosure (ISCR) checklist specifically for SCC investors, after examining the instruments in the annual reports of Malaysian companies. Based on previous social disclosure studies, mainly on Islamic financial institutions, this study proposed an alternative disclosure checklist to evaluate the practices of companies in respect to social commitment and the extent to which they are in line with Islamic requirements. From the modified disclosure checklist, the level of social disclosure was then evaluated for each company to measure the level of social disclosure of the selected companies.

Objective 4: ISCR and Determinants of Disclosure

The fourth objective was to identify variables that are associated with the level of Islamic social disclosure, which could inform the companies’ stakeholders, academics, and/or researchers, about the most influential attributes for the management to disclose specific information. Variables included in the analysis were similar to the variables examined in the EQ studies.

Objective 5: Relation between EQ and ISCR

Objective 5 set out to provide new empirical evidence concerning the relationship between Islamic social disclosure and the earnings quality of Malaysian companies.

1.5 Research Methodology

Paradigms are patterns of beliefs and practices that regulate enquiry within a discipline by providing lenses, frames, and processes through which investigation is accomplished (Weaver & Olson, 2006, p. 460). They are mechanisms to bridge a discipline's requirements for knowledge and its systems for producing that knowledge. Generally, three major paradigms of research perspectives are recognised, which are: positivism, interpretivism, and critical realism. These paradigms can be compared on the basis of three fundamental dimensions: ontology, or the nature of reality; epistemology, or the nature of knowledge; and methodology, (based on ontology and epistemology), or the methods that should be used to learn about reality (Fishman, 1995, p. 303).

In financial accounting research, from a methodological point of view, the two paradigms that have been used most extensively are positivism and interpretivism (Beattie, 2002). The positivist paradigm arose from a philosophy known as logical positivism, which is based on rigid rules of logic and measurement, truth, absolute principles and prediction. Beattie (2002, p. 112) argued that accounting research is now more balanced because the combination of theory and empirical testing has given way to more realistic aims in developing context-dependent theories, based on specific institutional settings.

In line with this emphasis on institutional settings, the main research interest in the present study focuses on accounting numbers and information provided in companies' annual reports. Specifically, the relationship between the level of disclosure and earnings quality were examined. This study set out to examine which information characteristic (in line with the Islamic Perspective of Accounting) was

more significant for stakeholders' decision-making and to determine the quality level of earnings reported.

Annual reports and financial statements are prepared according to the rules and regulations stipulated by the Financial Accounting Standards Board, Financial Reporting Standards, General Accepted Accounting Principles, International Auditing Standards, Company Law, the Sarbanes-Oxley Act and others. All these rules and regulations are important to guide those preparing the financial information in what and how the accounting figures should be reported. When this is related to ontology, it can be stated that data reported in the financial statements are things that really exist. The ontology is objectivist, i.e., there is an external viewpoint from which it is possible to view the organisation, which is comprised of consistently real processes and structures (Bryman & Bell 2007).

However, the information that is actually reported and whether it could be used to explain the company's true performance is open to further discussion. When this phenomenon is related to epistemology, it can be seen that a scientific method is needed to verify the situation. The role of research is to test theories and to provide material for the development of laws. According to Bryman and Bell (2007), in order to achieve this research objective, the researcher (a) tests general theory in a specific set of samples, (b) establishes the relationship between data based on factual or statistical evidence, (c) scientifically tests the research instruments, and (d) revises the theory based on the results obtained.

In line with the above arguments, the position of the research strategy adopted for the present study fits within the positivist research paradigm. The research strategy is set out in Table 1.1 below to justify the arguments:

Table 1.1: Research Strategy (Positivism)

Research Strategy (Positivism)		
1.	Principal orientation towards the role of theory in relation to research.	Deductive; testing of theory
2.	Epistemological orientation	Natural science model, in particular positivism
3.	Ontological orientation	Objectivism

Adapted from Bryman & Bell (2007, p. 28)

1.6 Research Questions, Method of Investigation, and Summary of Main Findings

A sound research method will enhance the credibility of any research. To achieve its objectives, this study employed a quantitative approach for both earnings quality and Islamic social disclosure studies. Quantitative research fits well with a positivist paradigm, because this method studies the phenomena through analysing raw data, and therefore is able to provide empirical evidence for the acceptance or rejection of hypotheses. The hypotheses are developed from previous theoretical and empirical studies as well as from relevant theories, thus generating a deductive conclusion. Additionally, a quantitative method is able to sustain the level of objectivity and minimize any potential bias. Table 1.2 below summarises the research objectives, research questions, and method of investigation for this study.

Table 1.2: Summary of Research Objectives, Research Questions, and Method of Investigation

Research Objective (Chapter)	Research Question	Method of Investigation
To provide new empirical evidence concerning the relationship between Islamic social disclosure and the earnings quality of Malaysian companies. <i>(Chapter 8)</i>	SRQ8: What is the relationship between Islamic social disclosure and earnings quality in the annual reports of Malaysian public listed companies?	<ul style="list-style-type: none"> • Two-stage least square (2SLS) • Multiple regression • Hierarchical multiple regression
To identify the most suitable model for Malaysian accounting data by reviewing the use of different approaches (models) in assessing earnings quality. <i>(Chapter 4)</i>	SRQ1: What is the most suitable approach that can be used by Malaysian stakeholders to assess the quality of the earnings reported by Malaysian public listed companies?	<ul style="list-style-type: none"> • Comparative analysis based on estimated results from multiple regression • Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) of out-of-sample observations
To identify the level of reported earnings by exploring the financial data of Malaysian public listed companies. Additionally, to identify which variables are associated with the EQ level. <i>(Chapter 5)</i>	<p>SRQ2: What is the level of earnings quality (EQ) in Malaysian public listed companies?</p> <p>SRQ3: To what extent do regulatory factors influence the level of earnings quality of SSC companies?</p> <p>SRQ4: What other factors are statistically significant in explaining variations in the quality of reported earnings?</p>	<ul style="list-style-type: none"> • Hierarchical multiple regression • Pearson's/Spearman Correlation, • Simple Regression • Kruskal-Wallis test • T-test comparison of means • Mann-Whitney U-test • ANOVA

Table 1.2: Summary of Research Objectives, Research Questions, and Method of Investigation (continued)

Research Objective (Chapter)	Research Question	Method of Investigation
To propose an alternative Islamic social disclosure (ISCR) checklist, specifically for SCC investors, after examining the instruments in the annual reports of Malaysian companies. <i>(Chapters 6)</i>	SRQ5: What is the extent of Islamic social disclosure in the annual reports of Malaysian public listed companies?	<ul style="list-style-type: none"> • Content Analysis • Pearson's/Spearman Correlation
To identify variables that are associated with the level of Islamic social reporting that enlighten the companies' stakeholders, academics, and/or researchers about the most influential attributes for the management to disclose specific information <i>(Chapters 7)</i>	<p>SRQ6: To what extent do regulatory factors influence the level of ISCR of Malaysian companies?</p> <p>SRQ7: What other factors are statistically significant in explaining variations in the level of ISCR?</p>	<ul style="list-style-type: none"> • Hierarchical multiple regression • Pearson's/Spearman Correlation, • Simple Regression • Kruskal-Wallis test • T-test comparison of means • Mann-Whitney U-test • ANOVA

Based on the objectives of the study, the research questions, and method of investigation for this study mentioned above, the main results for this study are set out below.

1.6.1 Relation between Islamic Social Disclosure and Earnings Quality

The results from the standard multiple regression, and the two-stage least squares (2SLS) method of analyses provided evidence that firms with poor earnings quality were more likely to disclose more social information.

1.6.2 The most suitable accruals quality model in assessing earnings quality for Malaysian accounting data.

Accruals quality models suggested by previous researchers in the UK and US (Jones, 1991; Modified Jones, 1995; Dechow & Dichev, 2002; McNichols, 2002) were examined and reviewed. Results generated from multiple regressions, Mean Absolute Forecasting Error (MAE), and Mean Square Forecasting Errors (MSE) identified the McNichols Model (modified Jones (1991) and DD (2002) models) as the most suitable model for the purpose.

1.6.3 Level of reported earnings of Malaysian public listed companies.

The level of earnings quality (EQ) was examined and it was found that there were variations in the level of EQ from 2000 to 2007, with the EQ level in the year 2007 being lower than the EQ level of previous years. The largest contribution to this variation in 2007 originated from “Listed and De-Listed” (DLL) companies.

1.6.4 Variables associated with the EQ level.

Factors such as regulatory factors, cultural factors, ownership structure, and market-related factors derived from the Islamic Perspective of Accounting, and four theories (namely, Institutional Theory, Environmental Determinism Theory, Agency Theory, and Signalling Theory) were tested to investigate whether they had a significant influence on the level of earnings quality of the sampled companies. The univariate results demonstrated that auditor size, type of industry, and gearings were significantly associated with EQ, but the relationships were weak. From the

multivariate analyses it was found that only the additional regulatory and cultural factors, and specifically the ethnicity of the chairperson, influenced the level of EQ.

1.6.5 The depth of Islamic social disclosure (ISCR) in the annual reports of Malaysian companies.

A preliminary survey of Islamic social disclosure on those Malaysian companies that are not classified as banking and financial institutions found that certain ISCR themes were lacking. On average, the Product and Services theme scored the highest for disclosure (63%), followed by the Environment theme (55%), Community theme (39%), and Employees theme (27%). Items related to Underlying Philosophy and Value (UPV), *Zakat*, *Shariah* Supervisory Board (SSB), and Islamic Terminology and Value (ITV) themes were disclosed at the very minimum level.

1.6.6 Variables that are associated with the level of Islamic social disclosure (ISCR)

The same range of factors tested to examine EQ was also used to investigate the Islamic social disclosure (ISCR). Findings from the multivariate analyses revealed that no significant relationship was present on regulatory and cultural factors; however, the variables corresponding to institutional investors and top-ten shareholders were found to be significant in both the univariate and the multivariate analyses. Results also indicated that the market-related variables (size of auditor and involvement in foreign activities) had a significant relationship with ISCR. However, the relationship between ISCR and type of industry produced no clear pattern. The data were further analysed based on the hierarchical regression analyses to determine whether selected factors would have a differential impact on the sub-categories of ISCR. With the exception of cultural factors, which had a significant impact on the themes of Products or Services, *Zakat*, and Islamic Terminology and Value (ITV), other results remained unchanged.

1.7 Rationale for Using Annual Reports

Data collected from the annual reports are useful and very informative. Apart from that, the information is also complete and expected to be free from material errors because the reports are prepared according to the rules and regulations stipulated by the Financial Accounting Standards Board, Financial Reporting Standards, General Accepted Accounting Principles, International Auditing Standards, Company Law, the Sarbanes-Oxley Act and other regulations. These rules and regulations act as guides to preparers of annual reports on what and how the accounting figures should be reported.

All data for the analyses in this thesis were obtained primarily from companies' annual reports. It is believed that the processed quantitative data provided in annual reports are able to offer greater explanatory power and greater predictive power than other data. Furthermore, they could easily be accessed by a variety of users of annual reports, whether from regular hardcopies or from softcopies available from the companies' websites. Consequently, annual reports appear to be the most important source of data for various purposes (Day 1986; Ho & Wong 2001; Most & Chang 1979; Vergoossen 1993).

Research carried out by Lang and Lundholm (1993) found that the levels of disclosure in companies' annual reports and other mediums of communication were positively correlated. Hence, an examination of the annual reports provides an accurate representation of the stand taken by companies on issues related to disclosures.

Finally, to ensure accuracy in this study, the data from the annual reports was extracted manually.

1.8 The Professional Contribution of the Study

This research will further improve the delivery of financial and non-financial information in the following ways:

- a) With regard to the accruals quality model, there have been many studies conducted in this area especially in the United States of America and in the United Kingdom. However, very few comparative studies have been carried out on the model using Malaysian financial statements. After thorough analysis, the McNichols (2002) model has been identified as the most suitable model for Malaysian accounting data. Therefore, it could be used by future researchers or stakeholders to evaluate Malaysian companies.
- b) Previous studies applied multiple regression analysis to evaluate the accruals model. This study provided additional analyses by analysing the model based on the Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) using the out-of-sample observations data.
- c) Empirical findings from previous Islamic social disclosure studies are related to Islamic financial institutions. This study is one of the first studies to investigate whether Islamic social disclosure has a substantial effect on earnings quality in the annual reports of Malaysian companies (excluding the financial and banking sectors). Therefore, the results from this study will draw attention to the relationship between Islamic social disclosure and earnings quality in the annual reports of Malaysian companies.
- d) The modified Islamic social disclosure checklist developed from this study could help stakeholders appreciate the commitment of Malaysian firms, specifically companies listed as SCC, towards the shareholders, society, environment, employees, customers, as well as towards meeting the requirements of Islam.

- e) The population of this study is sufficiently unique, that is, it includes companies listed as *Shariah*-compliant companies at the Securities Commission, Malaysia; little is yet known about *Shariah*-compliant companies in general. Therefore, this study offers some guiding principles that might be applicable to *Shariah*-compliant companies elsewhere. This study also widens the understanding of *Shariah*-compliant companies.
- f) Previous empirical studies in other countries and contexts found that various attributes were associated with the level of EQ and disclosure. This study has identified the attributes that are related to the level of EQ (additional regulations, cultural factors) and Islamic social disclosure (institutional investors, top-ten shareholders, industry type, auditor size, foreign activities) with respect to Malaysian companies.
- g) This study has shown that the theories examined in previous studies, namely Institutional theory, Environmental theory, Agency theory, Signalling theory, Stakeholder theory, and Legitimacy theory are part of the Islamic Perspective of Accounting framework.
- h) Finally, the findings of this study are of value and could enhance the understanding of investors, creditors, managers, employees and all other parties dealing with Malaysian firms regarding the significance of variables used in assessing the quality of annual reports and financial statements.

Additionally, Section 9.4 presents and discusses in detail several other contributions made by this thesis to the existing literature as well as to practitioners such as policy makers and regulators.

1.9 Scope and Limitations

This study focused on identifying which accruals quality model was the most suitable model to examine Malaysian data, and which Islamic social information seemed important but is not yet reported in company annual reports. The analysis of an accruals quality model requires a time series of observations. The data analysed are limited to accounting figures stated in annual reports from 1999 to 2007. Therefore the sample is biased towards companies that were active during that period. Nevertheless, the number of companies included in the analysis is quite large – 258 companies – which represents almost 40% of the average total population of public-listed companies listed on Bursa Malaysia from 1999 to 2007.

In comparing the accruals quality models in order to determine which model best predicted the performance of a company, another approach would have been to apply the 4 models to all the companies categorised as Listed & Delisted prior to the year in which the companies were delisted as *Shariah*-compliant companies. The same procedure could also have been applied to companies delisted from the Main Board of Bursa Malaysia in 2007. Models with the highest standard deviation of residuals for those companies would be ranked accordingly and the model with the highest ranking would be considered to be the best model to identify the earnings management activities of Malaysian companies. However, these procedures could not be carried out because of the small numbers involved; i.e. fewer than 10 companies fell in this category per year.

Apart from annual reports, companies in Malaysia disclose social information through various private and public channels of communication, such as press releases and interim reports. Nevertheless, in this study, the process of examining Islamic social disclosure is restricted to the annual report. Section 1.7 above discussed in detail the strength of annual reports as a source of information.

With regard to the Disclosure study, this study inevitably suffers the limitation of predictive validity. It is difficult to ensure that the findings can be generalised

successfully beyond the study to situations not under the direct control of the researcher. However, in terms of semantic validity, this study did not examine language, texts, or lists of words.

One of the important and interesting aspects when examining a *Shariah*-compliant company is to investigate the influence of the *Shariah* Supervisory Board on the decisions made by the firm. However, in the selected sample, only one company disclosed information about the existence of a *Shariah* Supervisory Board, (namely, KFC Holdings); therefore no further analysis could be carried out on this attribute.

1.10 Organisation of the Thesis

To summarise, this chapter has discussed the background of the study. It has also set out the motivation behind the study, stated the research objectives, research questions, methods of investigation, and the main results. The research paradigm adopted to undertake the present research study has also been outlined. The researcher has discussed the underlying philosophical assumptions of the work and stated the reasons for choosing the position. The chapter has also highlighted the justifications for obtaining the data from annual reports, professional contribution of the study, and its limitations. The remainder of this thesis is structured as follows:

Chapter 2 provides the theoretical and empirical arguments related to earnings quality, disclosure studies, and regulations issues. The chapter further reviews theories relevant to the operational mode of the arguments.

Chapter 3 describes the general situation in Malaysia and the Islamic Capital Market (ICM) framework. The main objective of the chapter is to justify why the study focused on the relationship between Earnings Quality and Islamic Social Disclosure in Malaysia. Issues related to Malaysian culture, varying economic conditions during the period of study, and the composition of the market structure, which are highlighted in this chapter, form a strong basis and justification for the research objectives in this study.

Chapter 4 compares the four Earnings Quality models; namely, the Jones Model (1991), Modified Jones Model (1995), Dechow & Dichev (DD) Model (2002) and McNichols (modified Jones & DD) Model (2002) in order to answer the first research question. It describes the sources, sample, and selection of the data. Processes involved in the data collection and data analysis stages are also presented here. The models were evaluated based on the model fit test, out-of-sample observations data and on Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) methods. This chapter concludes that the McNichols model is the most suitable model for Malaysian stakeholders to apply when they need to evaluate the quality of reported earnings of a Malaysian company.

Chapter 5 applies McNichol's accrual quality model as a proxy to EQ. This chapter provides the conceptual framework, explains the development of hypotheses for the link between EQ and the variables influencing EQ. This is followed by a brief discussion on the sample selection, data collection, measurement of dependent variables, and independent variables. Analyses performed on each hypothesis, and findings on the univariate analyses and multivariate analysis are also explained here.

Chapter 6 has two major sections: the first section discusses the development of items and themes included in the disclosure index and arguments related to each theme. It provides insights into Islamic social disclosure, specifically on the disclosure of items deemed important from an Islamic perspective. From the disclosure checklist, the level of disclosure that is related to Islamic Perspective Accounting guidelines is then empirically examined in respect of 224 companies. The second section presents and discusses the empirical findings from the analyses performed on the ISCR issues.

Chapter 7 has also two major sections: the first section discusses the factors expected to influence the management's decision to disclose information to the stakeholders through annual reports. This section contains the development of hypotheses related to the additional regulatory factor, cultural factors, ownership structure factors, and market-related factors.

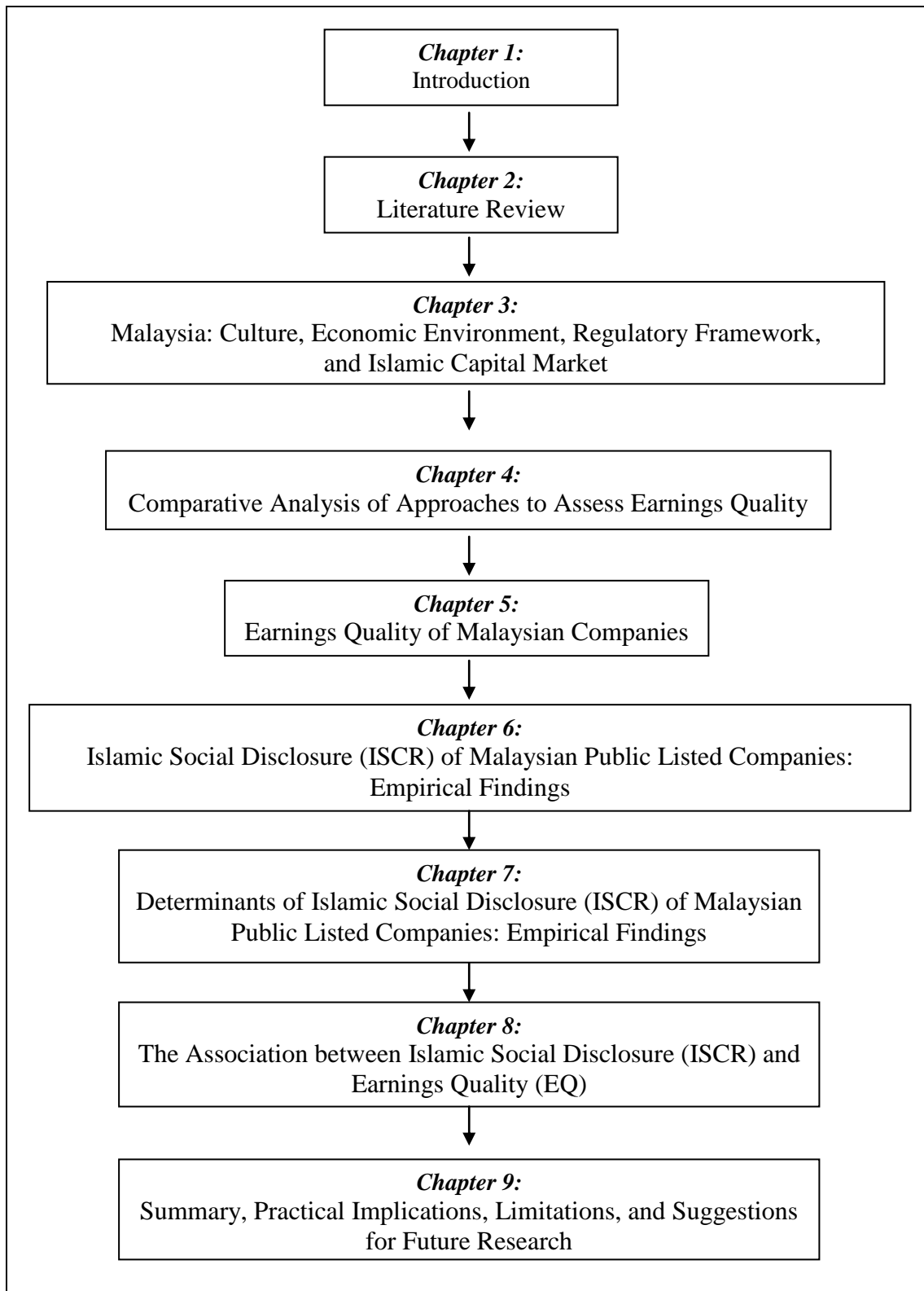
The second section presents and discusses the empirical findings from the analyses performed on the relationship between variables. Results are based on univariate and multivariate analyses and both parametric and non-parametric analyses are performed.

Chapter 8 discusses the development of hypotheses related to the relationship between EQ and ISCR, followed by the results obtained from the process of evaluating the relationship between EQ and ISCR; and between ISCR and EQ and all the variables related to the additional regulatory factor, cultural factors, ownership structure factors, and market-related factors.

Chapter 9 presents the main conclusions of the study. It discusses the implications of the findings for both theory and practice. The limitations of the study and suggestions for future research are also discussed in this chapter.

Figure 1.1 outlines the structure of the thesis.

Figure 1.1 Thesis Structure



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Much has been written about earnings quality and disclosures, and matters concerning these topics have been widely debated by academics, practicing accountants and investors. However, many issues remain unresolved. A large body of literature exists on earnings quality, disclosure and regulations issues. Discussion of prior studies is important in assisting the researcher to identify the gaps where research in the area can be extended. It can also help to identify whether the provisions embodied in governing principles and regulations are well implemented and practiced in the market. In this study, an Islamic perspective of accounting which incorporates elements of *Shariah* Law constitutes an additional layer of regulations operating in the context within which the study was undertaken, that is, the Malaysian capital market.

The major gaps identified in the existing literature that this study set out to fill are expressed in the following specific research questions (SRQ).

SRQ1: What is the most suitable approach that can be used by Malaysian stakeholders to assess the quality of the earnings reported by Malaysian public listed companies?

Although large numbers of studies have been carried out, they have been conducted mainly within the contexts of the regulatory and institutional frameworks of developed countries such as in the UK and the US. To date, no comparative study has yet investigated accruals quality models based on Malaysian data. This provides an opportunity for this study to identify the method that is best able to accurately assess the quality of earnings reported in the Malaysian context; therefore it could become a referred study for future researchers when examining EQ level of Malaysian data.

SRQ2: What is the level of earnings quality (EQ) in Malaysian public listed companies?

SRQ3: To what extent do regulatory factors influence the level of earnings quality of SSC companies?

SRQ4: What other factors are statistically significant in explaining variations in the quality of reported earnings?

Previous studies on the level of earnings quality (EQ), and its determinants were tested on a number of factors (regulatory factors, cultural factors, ownership structure, and market-related factors) derived from various theories. Due to the uniqueness of the population and sample of this study, as well as the implementation of *Shariah* principles on the SCCs, this study contributes to the existing literature by testing the variables based on four theories (namely, Institutional Theory, Environmental Determinism Theory, Agency Theory, and Signalling Theory) and by incorporating the Islamic Perspective of Accounting framework in the discussions. The study could then be able to identify the level of reported earnings by exploring the financial data of Malaysian public listed companies, and additionally to identify variables that are associated with the EQ level.

SRQ5: What is the extent of Islamic social disclosure in the annual reports of Malaysian public listed companies?

Although there is extensive literature on disclosure studies, most of the studies on social disclosure in an Islamic context were restricted to banking and financial institutions, or to firms in Middle Eastern countries. Therefore, a study on the capital market in Malaysia and specifically on companies that are not classified as banking and financial institutions provides an opportunity to investigate a previously unexplored research setting where the empirical findings could contribute to the literature related to non-financial information. The modified ISCR checklist developed for this study could also be used as an alternative checklist for SCC investors to examine the instruments in the annual reports of Malaysian companies.

SRQ6: To what extent do regulatory factors influence the level of ISCR of Malaysian companies?

SRQ7: What other factors are statistically significant in explaining variations in the level of ISCR?

As with EQ, previous studies on disclosure have investigated a range of variables based on various theories. Since the sample of this study is drawn from Malaysian public-listed companies, and more specifically from companies that are not classified as banking and financial institutions, this empirical study contributes to the existing literature because it analyses different data and different elements of disclosure, and furthermore because it integrates an IPA framework into the analyses and discussions. The empirical findings will enlighten existing and potential stakeholders of the companies, academics, and researchers regarding the most influential attributes for which the management should disclose information, and specifically information related to social disclosure in the Islamic context.

SRQ8: What is the relationship between Islamic social disclosure and earnings quality in the annual reports of Malaysian public listed companies?

None of the previous studies that have examined the relationship between disclosure and earnings quality or earnings management have conducted analyses of the relationship between EQ and social disclosure in the Islamic context. This study therefore contributes to the existing literature by introducing a different research setting with some different ISCR items and themes. The findings provide new empirical evidence concerning the relationship between Islamic social disclosure and the earnings quality of Malaysian companies.

Because of the need for preliminary quantitative analyses to be carried out on five of the central concepts, the thesis contains five empirical chapters: Chapter 4 on accruals quality models (to answer SRQ1), Chapter 5 on the level of EQ and its determinants (to answer SRQ2, SRQ 3, SRQ4), Chapters 6 and 7 on the ISCR (to answer SRQ5, SRQ6, SRQ7), and Chapter 8 on the relationship between EQ and ISCR (to answer SRQ8). The relevant literature specific to each topic is therefore

discussed within the respective chapter. The present chapter, however, introduces the theoretical framework and reviews relevant theories and empirical literature in the field of earnings quality, specifically in the area of accruals quality; disclosures; and *Shariah* Law, particularly as it pertains to the Islamic perspective of accounting in general; for the purpose of justification and strengthening of the basis of understanding.

The remainder of this chapter is organised as follows: **Section 2.2** defines earnings quality (EQ), and discusses the empirical studies that have contributed to the development of accruals quality models and the areas where there are opportunities for research to be expanded. **Section 2.3** defines disclosure and discusses empirical studies that provide an overview of the motives behind disclosure. **Section 2.4** discusses the theoretical underpinnings, where **Section 2.4.1** discusses the *Shariah* Law as proxy for the regulatory factor, in which the Islamic Perspective of Accounting (IPA) is treated as the main theoretical framework that is used to explain the importance of the management's decisions being in line with Islamic principles to ensure that high quality information is reported to stakeholders in respect of earnings quality and disclosures matters. This is followed by a brief discussion of previous empirical studies undertaken within the Islamic context that are relevant to the current study. Apart from IPA, there are other theories relevant to the discussion of variables affecting EQ and disclosures, and selected theories are discussed in **Section 2.4.2**. Finally, **Section 2.5** summarises and concludes the chapter.

2.2 Earnings Quality

This section presents a general concept of earnings quality (EQ). EQ is defined, and various approaches applied by previous studies in assessing EQ are described. A discussion of previous theoretical and empirical studies that are relevant in developing the research questions on EQ models is presented in Chapter 4; development of EQ hypotheses is presented in Chapter 5; and on the relationship between EQ and ISCR is presented in Chapter 8.

2.2.1 Definition of Earnings Quality (EQ)

Hicks (1946) defined earnings as income that corresponds to the amount that can be consumed (that is paid out as dividends) during a period, while leaving the firm equally well off at the beginning and the end of the period. Dechow and Schrand (2004, p.16) stated that earnings are simply current period revenues and expenses that are received and paid in cash, plus accruals.

EQ has been defined in various ways: Francis et al. (2008) defined EQ as the accuracy of the earnings indicator derived from the firm's financial reporting system. EQ also refers to the ability of reported earnings to reflect the company's true earnings as well as the usefulness of reported earnings to predict future earnings. It refers to the stability, persistence, and lack of variability in reported earnings (Bellovary, et al. 2005, p. 32). Francis et al. (2006) viewed the quality of earnings reported as dependent on the accuracy of the earnings reported compared to the benchmark set, its effect on the capital market, and its influence on reporting decisions and long-run strategic decisions.

EQ has also been defined as the extent to which a firm's past earnings are associated with its future cash flows, and it is viewed to be of high quality if it shows less evidence of earnings management, more timely recognition of bad news, and a higher association with share price (Mikhail et al. 2003 and Lang et al. 2003). Schipper and Vincent (2003, p. 98) defined EQ as the extent to which reported

earnings faithfully represent Hicksian income, where representational faithfulness means “correspondence or agreement between a measure or description and the phenomenon that it purports to represent”. The authors focused on Hicksian income because it abstracts from user-decision contexts; from accounting recognition rules that preclude the recording of many economic assets and liabilities; from difficulties in reliably measuring assets and liabilities at their economic values; from the effect of the management’s judgments and estimates; and from the influence of auditors.

According to Dechow and Schrand (2004, p. 2), the definition of EQ depends on the users of the financial statements; different users will define EQ differently. For example, from the perspective of the financial press, high quality of earnings could be achieved if the earnings reported were free from fraudulent activities and unusual items, and reported transparently; regulators would accept that the earnings reported were of high quality if they complied with the spirit and rules identified in GAAP; as for creditors, high quality earnings are easily convertible into cash flows; compensation committees are likely to view EQ as a reflection of managers’ real performance and as little influenced by factors beyond management control; and an analyst would define EQ as a good reflection of current performance, a good indicator of future operating performance, and as enabling accurate annuitization of the intrinsic value of the firm. Ecker et al. (2006) defined EQ in terms of the accuracy of current accruals into current, previous year, and future year cash flows and considered it important in determining the firm’s information risks.

Based on Decision Usefulness theory, attributes of EQ include relevance (predictive ability, timeliness, and feedback ability), reliability (verifiability and representational faithfulness, and neutrality), and comparability (consistency). In Ball and Shivakumar’s (2008a) view, high quality earnings are conservative, while low quality earnings are upwardly managed earnings. On the other hand, as argued by Wysocki (2008), EQ has a lot in common with earnings management (EM). Highly managed earnings would result in low EQ. However, lack of EM is not a signal of high EQ. According to Teets (2002), there are three distinct sets of decisions that affect the quality of earnings; namely, decisions made by standard setters; choices

made by the management about which accounting methods should be chosen from a set of acceptable alternatives; and judgments and estimates made by the management in order to implement the chosen alternatives.

2.2.2 Earnings Quality Valuation

Previous academic studies have investigated the quality of financial reporting, particularly earnings and its components, using numerous approaches which include accruals quality, earnings persistence, and a stock market-based approach.

2.2.2.1 Accruals Quality Approach

Dechow and Dichev (2002) contended that the role of accruals is to shift or adjust the recognition of cash flows over time so that the adjusted number measures firms' performance and predicts future earnings and cash flows. An empirical study was carried out by Sloan (1996) on the nature of information contained in the accruals and cash flow component of earnings, and to what extent it would affect share prices. His findings revealed that the accruals component in earnings is less persistent compared to cash components. Furthermore, since investors do not consider the differential persistence of accruals and cash flows, the management has more opportunity to manipulate the accruals for their own objectives, and this could lead to an inflated current price and future underperformance (Dechow & Schrand, 2004). Francis et al. (2006) suggested that if the measurement of EQ is based on the accruals component, large (small) values of estimation errors will correspond to poor (good) accruals quality. This is because there is less (more) precision about the mapping of current accruals into current, last-period, and next-period cash flows. Barth, Cram, et al. (2001), who studied earnings quality, found that disaggregating earnings into cash flows and aggregate accruals significantly increased the adjusted R² for forecasting future cash flows.

Currently, the best-known accruals quality models are Jones (1991), Modified Jones Model (1995), Dechow and Dichev (2002), and McNichols (2002). Jones (1991) modified a model constructed by DeAngelo (1986). In her model, Jones used an estimate of the discretionary component of total accruals to measure earnings instead of a single accrual. She argued that the component of total accruals was more appropriate in her research context. Attributes included in her model are changes in accounts receivable, changes in inventory, changes in accounts payable, changes in revenues, depreciation expenses, and gross property, plant, and equipment. These attributes were extracted from the Balance Sheet and Statement of Cash Flows. Changes in revenues and gross property, plant, and equipment were included in her model in order to control for the changes in nondiscretionary accruals caused by changing conditions. Jones' (1991) model was extended by Dechow, et al. (1995) by deducting the amount of accounts receivable from the revenues in the estimation of normal accruals. They argued that the accounts receivable in the event period is easier to manage and therefore when it is excluded from the recognition of revenue the tendency of misrepresentation by the Jones Model could be eliminated.

Subsequently, Dechow and Dichev (DD) (2002) constructed a model in which they included last-period, current-period, and next-period cash flows from operations and extracted the items from the Statement of Cash Flows. They argued that extracting items from the Statement of Cash Flows makes it possible to avoid a noisy and biased estimates' result. However, Wysocki (2006, p. 2) argued that the Dechow and Dichev (2002) model has limited ability to distinguish between discretionary and non-discretionary accruals; it displays empirical properties that are indistinguishable from a random decomposition of working capital accruals, and the measurements derived from it show weak and contradictory associations with other measurements of accounting quality for U.S. and international firms. Consequently, McNichols (2002, p. 65) combined DD (2002) and Jones (1991) accruals quality models in the expectation that combining both could strengthen the approaches, and to calibrate the errors associated with Jones' measure of discretionary accruals and DD's measure of earnings quality.

The Jones model (1991), Modified Jones model (1995), Dechow and Dichev model (2002) and McNichols (2002) accruals quality model are discussed in detail in Chapter 4, together with the results obtained from the statistical analyses.

2.2.2.2 Earnings Persistence Approach

Greater earnings persistence refers to earnings that truly reflect performance during the period and, if current-period performance persists, in future periods. It also refers to the extent that the earnings series reflects underlying intrinsic value (Dechow & Schrand, 2004, p. 6). Boonlert-U-Thai (2006) refers to earnings persistence as the extent to which an innovation (unexpectedness) in the earnings series causes investors to revise their future earnings expectation (p. 330). Sloan claimed in his study (1996) that the cash flow component of earnings is more reliable than the accruals component. Thus, the cash flow component of earnings is more persistent than the accrual component. Xie (2001) maintained that the non-discretionary component of accruals is more persistent than the discretionary component. Meanwhile, Schipper and Vincent (2003) argued that the association between current earnings and future earnings is affected by the entity's business model and accounting choices made by the management; thus management that intentionally smooths earnings would increase earnings persistence. Previous researchers (Ali & Zarowin, 1992; Boonlert-U-Thai, 2006; Francis et al., 2004; Kormendi & Lipe, 1987); applied the model stated below to measure EQ under the earnings persistence approach:

$$\frac{\text{Earn}_{j,t}}{\text{Total Assets}_{j,t-1}} = \alpha + \delta_1 * \frac{\text{Earn}_{j,t-1}}{\text{Total Assets}_{j,t-1}} + V_{j,t}$$

Where,

$\text{Earn}_{j,t}$: Firm's j net income before extraordinary items in year t.

$\text{Earn}_{j,t-1}$: Firm's j net income before extraordinary items in year t-1.

Values of δ_1 close to 1 imply highly persistent earnings (high quality), while values of close to 0 imply high transitory earnings (low quality).

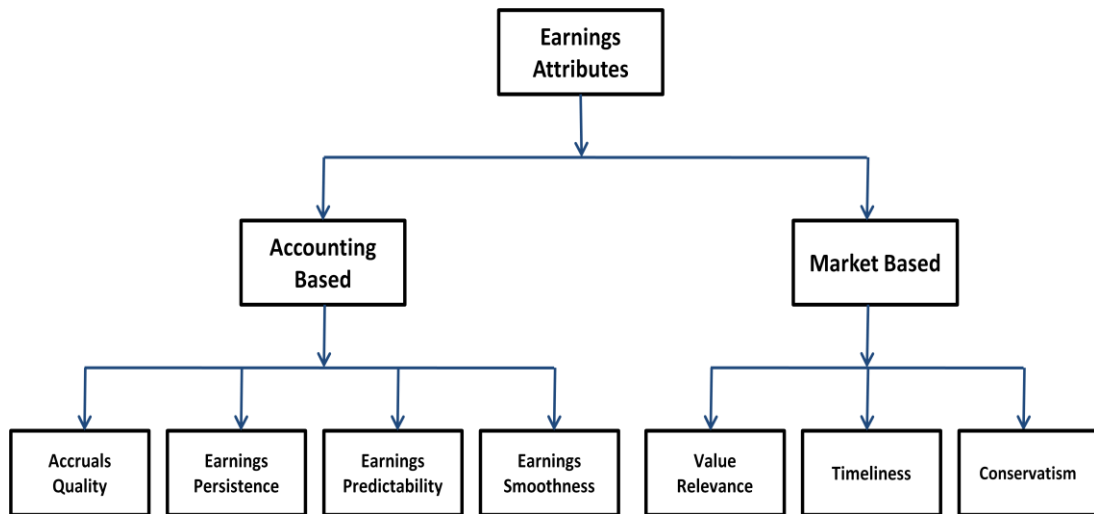
2.2.2.3 Stock Market-based Approach (Value Relevance of Earnings Approach)

The stock market-based approach focuses on the association between earnings and stock market performance, either stock prices or market returns. The association (slope coefficient or the explanatory power of the model) between earnings (or other accounting numbers) and stock market performance suggests that earnings (or other accounting numbers) are both relevant and reliable to investors (Barth et al., 2001). According to Cornell and Landsman (2003), this approach is also based on the response of stock prices, which are generally measured as risk-adjusted (net-of-market) returns, to unexpected changes in the competing accounting measures. The best earnings measure for value relevance tests is interpreted to be the one that produces the highest adjusted R^2 and the greatest slope coefficient. Depending on the study, the net movement in stock price is calculated over various intervals. Normally, the net movement on stock price is measured by the cumulative average residual over the observation interval.

2.2.2.4 Other Approaches

In addition to accruals quality, earnings persistence, and the stock-market approach (value relevance), there are other methods that could be used to measure the quality of earnings reported, such as predictability, timeliness, smoothness, and conservatism. Francis et al. (2004) characterized accruals quality, persistence, predictability, and smoothness as accounting-based, and value relevance, timeliness, and conservatism as market-based earnings. Attributes characterized under accounting are measured based only on accounting information, while attributes categorized as market-based are measured based on the estimated relation between accounting earnings and market prices or returns. Figure 2.1 below depicts the classification of earnings attributes by Francis et al. (2004, p. 1007).

Figure 2.1: Earnings Quality Attributes according to Accounting-Based and Market-Based.



Their study used annual cross-sectional regressions of cost equity proxies on beta, size, and book-to-market ratio over the period 1975-2001. They concluded that the accounting-based attributes, and specifically the accruals quality approach, has the largest effects on the cost of equity and therefore would allow for more sharply delineated comparisons in settings where the consideration of earnings numbers or reporting systems is linked to investors' resource allocation decisions.

However, Francis et al. (2008), in investigating the relationship between voluntary disclosure, earnings quality, and cost of capital of 677 firm's annual reports and 10-K filings in the fiscal year 2001, mentioned that, when dealing with earnings quality measurement, there is no agreed-upon metric for the EQ construct. They, however, used McNichols' (2002) model, earnings variability (earnings before extraordinary items, scaled by total assets), absolute abnormal accruals (Modified Jones Model), and the common factor score obtained from the 3 measurements mentioned earlier.

Since the present study refers to accounting information and data that are extracted exclusively from annual reports and anticipates that accruals quality approaches are

more accurate in explaining and comparing the current research settings (as demonstrated by Francis et al., 2004), only accrual quality measurements will be further examined. Furthermore, it can be observed that most of the literature on earnings quality, specifically on comparative studies of the approaches, concerned companies in the United Kingdom and in the United States of America. The appropriateness of the accruals quality models has not yet been comprehensively examined on Malaysian data.

2.2.3 Motives for Earnings Management (EM)

Because destructive earnings management activities could result in a low quality of earnings reported, it is important to know what motivates management teams to become involved with the unlawful activities. However, since EM is not the central issue of this study, the following is a brief review.

Schipper (1989) defined EM as “the purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain” (p. 92). EM has also been defined as management efforts to manipulate earnings, specifically the accounting results, by using specific methods towards predetermined targets and to be able to misrepresent business performance (Akers et al. 2007; Mulford & Comiskey, 2002). In line with Healy and Wahlen’s (1999) arguments, Akers et al (2007) stated that management teams could use their own judgment in applying specific accounting methods, recognizing one-time non-recurring items, deferring or accelerating expenses or revenues, or other methods that could influence short-term earnings. Management could increase the reported earnings so that it could offer higher share prices to potential shareholders (Healy & Wahlen, 1999). Dechow et al. (1996, p. 30) listed the following as reasons for managers to manipulate earnings: a) to raise external financing at low cost, b) to avoid debt covenant restrictions, c) to obtain a larger earnings-based bonus, and d) to sell their stockholdings at inflated prices. They further argued that earnings management affects a firm’s costs of capital during the manipulation periods as well as after the manipulation has been

revealed. Mulford and Comiskey (2002) summarized the conditions and incentives for earnings management as set out in Table 2.1 below:-

Table 2.1: Earnings Management: Conditions and Incentives

Conditions	Incentives
Earnings are somewhat short of the consensus earnings forecast in the market.	To avoid a potentially sharp drop in share price.
A firm is preparing for an initial public offering of its shares	To present the best possible earnings picture so as to maximize the price at which the issue is sold.
Earnings are just above the minimum level required to earn incentive compensation, or close to exceeding the maximum beyond which no additional incentive compensation is earned.	To cause earnings to remain between the minimum and maximum earnings level so as to maximize incentive compensation.
A firm, either because of size or industry membership, or both, is a potential target for adverse political activity.	To minimize the political costs of size and/or industry membership by avoiding what might be considered excessive profit levels.
A firm is close to violation of an earnings-related financial covenant in a credit or debt agreement.	To avoid the potential adverse effects of a covenant violation, for example, an interest rate increase, a demand for security or immediate repayment.
Earnings are either somewhat above or below a long-term trend believed by management to be sustainable.	To avoid an improper market response to earnings being temporarily off-trend.
Earnings volatility is induced by a series of nonrecurring items.	To reduce earnings volatility so that a valuation penalty, associated with a perceived higher level of risk, is not assessed.
A change in the top management of the firm has taken place.	To take large write-offs immediately upon the arrival of new management, relieving future results of the charges and permitting blame to be assigned to outgoing management.
Large losses associated with restructuring and related charges have been accrued in the past.	To reverse any overstated portion of the accruals in order to achieve earnings goals in later period.

Source: Adapted from Mulford and Comiskey (2002; p. 61)

All the destructive tasks would mislead some stakeholders about the economic performance of the company and could cause serious problems to market players. In extreme situations, when very large companies are involved, it may affect the world economy, as in the cases of Enron Corporation, WorldCom, Tyco International, Qwest Communications, and Xerox Corporation.

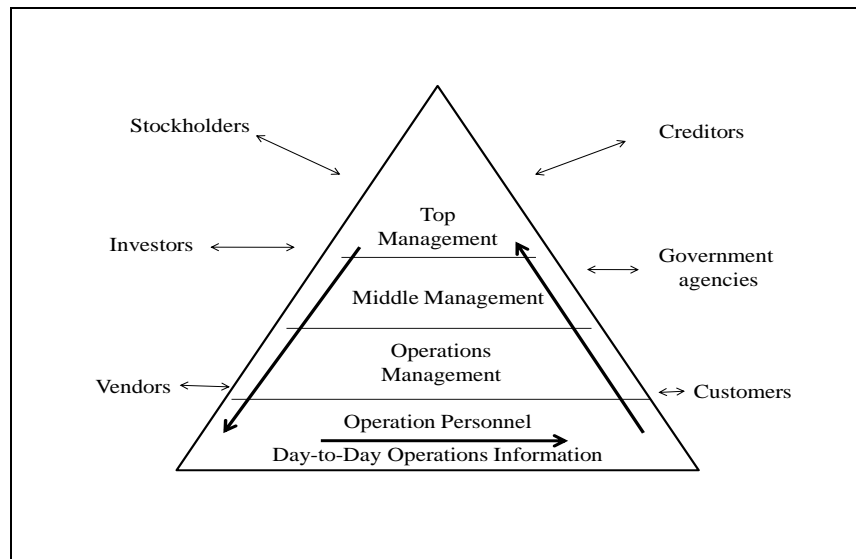
2.3 Disclosure

This section defines and discusses the general concept of disclosure. Detailed discussions of empirical findings relevant to the development of a disclosure index are presented in Chapter 6, and development of hypotheses in Islamic Social Disclosure studies are presented in Chapter 7.

2.3.1 Definition of Disclosure

Information is processed data (Hall, 2004), which can be used to reduce the level of uncertainty, aid in decision making processes (such as making rational investment and credit decisions), and encourage users to take further action. The information flows of an organization and the users of information are as depicted in Figure 2.2 below.

Figure 2.2: Internal and External Flows of Information, and Users



Source: Adapted, with some modification, from Hall (2004, p. 3)

Figure 2.2 above demonstrates that information flows upward and downward as well as horizontally among the internal users. The downward information flow is normally related to the firm's mission, vision, budget and instructions; whereas the upward flows are normally related to performance information and feedback. Horizontal flows of information are related to flows of important information needed by the same level of people in the hierarchy to operationalize the firm's specific objectives. Information also flows (in both directions) between firms and their external stakeholders, namely stockholders, creditors, government agencies, customers, and vendors. The flows occur for various reasons and each has its own unique information requirements.

Information dissemination is normally executed through various media such as annual reports and press releases. However, financial information and information related to business commitment to the stakeholders is disclosed in the annual reports. Information stated in the form of notes and supporting schedules accompanying financial statements, expressed both in quantitative and qualitative terms, is referred to as disclosure (Schipper, 2007). This supporting information provides stakeholders

with useful information that clarifies and supplements the financial statements (Cole & Jones, 2004).

Disclosure in the annual reports can be classified into mandatory disclosure and voluntary disclosure. Schipper (2007, p. 303) pointed out that voluntary disclosure is needed, as the objective is to maximize a firm's value or its manager utility, whereas mandatory disclosure is needed for the following reasons: a) to describe recognized and unrecognized items; b) to provide a useful measure of unrecognized items; c) to provide alternative measures of recognized items; d) to provide information useful for assessing risks; and e) to provide information, temporarily, while other solutions are being studied (SFAS No. 105, as quoted by Schipper, 2007, p. 305). It could therefore improve the prediction level as well as helping users in making sound decisions.

2.3.2 Motives for Disclosure

In general, disclosure is sufficient if all material information is provided and enables users to make sound decisions without experiencing a problem of information overload (MacPherson & Connolly; 2002). Verrecchia (2001) suggested three broad categories of disclosure research in accounting: association-based disclosure, discretionary-based disclosure, and efficiency-based disclosure. In general these accounting research studies have attempted to examine the relationship between disclosure level and management objectives and motivations, manager attitudes towards disclosure, price changes, trading volumes, investor behaviour, and economic social welfare.

In terms of enhanced disclosure, previous researchers have revealed that it is value-relevant and able to improve the judgments and decision making of users of financial statements (Byard and Shaw, 2003; Cole and Jones, 2004; Coram, 2010). It reduces the problem of information asymmetry between investors (Core, 2001; Iatridis, 2008) that could cause stakeholders to have difficulty in differentiating between efficient and less efficient firms (Leftwich, 1980, Watts and Zimmerman, 1986). It

could also improve managers' credibility (Healy & Palepu, 1993) through voluntary disclosure of additional information in the annual reports such as articulation of the firm's long-term strategy, the firm's social commitments to the community's and employees' welfare, the firm's achievements in reducing pollution, other issues related to corporate governance, corporate social responsibilities, environmental reporting, and commitment to religious requirements (Abu-Baker and Naser, 2000; Botosan, 1997; Francis et al. 2008; Haniffa & Cooke, 2002; Kanagaretnam et al., 2007; Kristandl & Bontis, 2007; Palepu et al. 2004; Sevin et al. 2007).

As is evident in a study carried out by Byard and Shaw (2003), high quality publicly available disclosure is able to help analysts in forming their earnings forecast and to provide more accurate information about annual earnings. Additionally, Cole and Jones (2004) found that data extracted from management discussion and analysis (MD&A) was able to contribute incremental explanatory power to analysts. Firms providing satisfactory disclosure would overcome the problems encountered from traditional capital-market financial reporting, produce less volatility and less insider trading, and decrease the cost of equity capital (Botosan, 1997; Botosan & Plumlee 2002; Kristandl & Bontis, 2007).

Additionally, the management's decision to disclose information could also be due to several favourable objectives. It could be one way to attract investors, to portray a good image of the management team, and also to notify shareholders of the managers' ability in managing the firm in an appropriate manner and therefore positively affect the stock returns and the market value of the firm (Healy and Palepu, 1993; Iatridis, 2008; La Porta et al., 2000). This phenomenon is in general true for firms with high growth opportunities as compared to firms with low or no growth (Core, 2001). In Dye's (1988) opinion, managers would also try to provide satisfactory information in order to gain the shareholder's trust and confidence during periods of uncertainty.

Palepu et al. (2004, pp. 3-9) stated that once a firm was able to disclose satisfactory information related to the firm's business strategy, economic consequences, key accounting policies and assumptions with logic behind implementation, current performance, desegregated performance data, level of competition, as well as procedures taken to deal with bad news, the level of disclosure of that firm would be of high quality. On the other hand, Core (2001, p. 443) stated that for firms without growth opportunities, which do not require external financing, and have low litigation, incentive and propriety costs, mandatory disclosure is considered of high quality and sufficient to reduce the information gap. Additionally, Fraser et al. (2005, p. 804) also pointed out that individual investors place greater reliance on this type of report as compared to the enhanced report.

Generally, the management has more information than any other stakeholders (Fraser et al. 2009; Healy & Palepu, 1993). However, since their incentives are not perfectly aligned with all shareholders interests (Healy & Palepu, 1993); they might withhold information if the disclosure cost outweighed the benefit (Verrecchia, 2001). Subsequently, they might also choose not to disclose additional information because the production cost of providing additional information is higher than the revenue derived from the sale of information; in other words, it exceeds the market value of the information (Watts & Zimmerman, 1986).

On the other hand, Marshall and Weetman (2007) argued that managers' poor discretion could create negative effects, such as lack of transparency and a widening of the information gap. Their study discovered that managers, both in the US and the UK, were not making full disclosure of information that would satisfy the spirit of the regulation relating to qualitative disclosure of policy for Foreign Exchange risk management; both countries were found to be equivalent in the extent of nondisclosure (p. 705). Consistent with Marshall and Weetman (2007); Sevin et al. (2007) also found that many companies were not willing to provide additional voluntary disclosures to improve financial transparency, although the necessary information was easily accessible. They proposed that the key element of transparency should include sustainability (information presented should indicate

how a company achieved its earnings and whether those earnings would be sustainable in the future) and understandability (users are able to easily understand the information communicated in corporate financial statements). Brown and Hillegeist (2007) consistently found that the higher the level of information asymmetry, the lower was the disclosure quality and relationship between firms and investors.

Developing countries are expected to differ from developed countries with regard to disclosure level, type of information, and purpose of disclosure. Sedaghat et al. (1994) examined 16 countries; namely, Argentina, Brazil, Chile, Colombia, Greece, India, Jordan, Korea, Malaysia, Pakistan, Philippines, Portugal, Taiwan, Thailand, Turkey, and Zimbabwe. They argued that the expansion of securities markets and international accounting had an impact on stock market activities; therefore appropriate government rules and proper disclosure were necessary to promote reliability of accounting information and disclosure. The decisions to disclose information were subject to potential controllable and uncontrollable factors. Possible explanations behind this situation included: a) a country's regulatory factors; developing countries would have different rules and regulations that firms were required to comply with; b) the managers' experience, educational, and cultural background was likely to be different from that of managers in developed countries; c) ownership structures; shareholders of developing countries were expected to be dominated by institutional investors rather than individual investors; and the management of the firms were expected to be dominated by family members; and d) involvement of auditors and foreigners in certain companies might influence the type and quantity of information disclosed. Subsequently, this study discusses and examines these issues comprehensively.

Chapter 6 presents the literature review, and discloses the empirical results related to the ISCR level; and consequently Chapter 7 presents the literature review and discloses the empirical results on determinants of ISCR level of Malaysian public listed companies.

2.4 Theoretical Underpinnings

The primary objective of accounting is to provide financial information about the economic affairs of an entity for use in making economic decisions (Schipper & Vincent, 2003; Staubus, 1977). The type of decision that needs to be made by different groups of people (such as investors, administrators, employees, suppliers, customers, governmental taxing and regulatory agencies, and the general public) will determine the usefulness and the value of the various items of information. The ultimate test of the quality of any communication is its effectiveness in conveying pertinent information (Staubus, 1977, p. 23). Some attributes of useful financial information include relevance (the information has the ability to predict the performance of a company); timeliness (the information provided is on time and feedback can be given at the time required); reliability (refers to the verifiability and representational faithfulness as well as neutrality of the information provided); comparability (where the information provided should be consistent throughout the accounting period); understandability; and completeness (Staubus, 1977; originally from APB Statement No.4, 1970).

Many theories have been developed to answer the demands of investors, administrators, employees, suppliers, customers, governmental taxing and regulatory agencies, and the general public for more transparent and accurate financial statements and annual reports. Among the theories relevant to these issues are: Agency Theory, Signalling Theory, Political Cost Theory, Legitimacy Theory, Institutional Theory, Decision-Usefulness Theory, Wealth Maximization Theory, Contingency Theory, Disclosure Theory, Stakeholder Theory, and Islamic Socioeconomic Theory.

Since the research setting of this study is Malaysian companies that are operating where the Islamic Capital Market (ICM) has been accepted as an important agenda to boost the economy, it is instructive to examine the effect of regulation on the EQ and ISCR. The existence of companies that are subject to the additional regulations imposed by *Shariah* Law and whose counterparts share the same market, provides a

unique opportunity to analyse and evaluate the quality of financial reporting, specifically earnings quality and disclosure, based on the Islamic Perspective of Accounting (IPA) framework. IPA is the most appropriate framework to demonstrate and explain the needs of *Shariah* principles in conducting business activities. *Shariah* Law stresses the relationship that should exist between humankind, the environment and God (*Allah*). Nevertheless, since there is still a lack of theoretical and empirical evidence derived from similar research settings and issues, several alternative theories, namely Institutional Theory, Environmental Determinism Theory, Agency Theory, Signalling Theory, Stakeholders Theory, and Legitimacy Theory are also discussed on a complementary basis. The following section discusses the general development of the Islamic Perspective of Accounting (IPA) and the theoretical framework in the Islamic context. Chapters 5, 6, 7, and 8 are set within the context of IPA and related theories.

2.4.1 Regulations, *Shariah* Law and Islamic Perspective of Accounting (IPA)

The Oxford Advanced Learners dictionary defines regulation as *rule or restriction made by an authority* (p. 1060). Taylor and Turley (1986, p. 1) define regulation that affects accounting statements as “*the imposition of constraints upon the preparation, content and form of external financial reports by bodies other than the preparers of the reports, or the organisations and individuals for which the reports are prepared*”. Regulation is of paramount importance in ensuring that market players are well protected, and that each of them is treated fairly and there is proper conduct among them. Regulations are able to foster positive structural changes within an industry (Hatcher, 1991, p. 27); and influence management’s choice of accounting techniques (Holthausen, 1981). Additional regulation imposed on certain firms could not be a substitute to accounting enforcement regulation, but it could be used to reduce or prevent unprofessional conduct in accounting, such as destructive earnings management activities (Burgstahler et al, 2006; Collins et al, 1997; Merino & Mayper, 2001; Schmidt, 2005). With regard to the impact of regulations on accounting systems, previous studies have shown that additional regulations are

positively associated with accounting systems (Archambault & Archambault, 2003), and level of disclosure (Doupink & Salter, 1995; Inchausti, 1997; Jaggi & Low, 2000). Therefore, with regard to annual reports, information provided by firms that are bound to adhere to certain additional regulations would be expected to be different from firms that are not required to do so or firms that need to comply with only the minimum acts and requirements.

As Islam encourages Muslim involvement in equity holdings, partnerships, and trade or business (*Al-Quran* 2: 275; Al-Rimawi, 2001; Beekun, 1997; Haniffa et al., 2004); nowadays, it can be seen that many Muslim countries are committed and moving towards incorporating a code of conduct that is in line with Islamic principles in their business activities. The code of conduct that is in line with Islamic principles is known as *Shariah*. Apart from a collection of do's and don'ts, a code of criminal laws prescribing punishment for certain crimes, *Shariah* literally means a clear, concrete, and specific path. It is the path that man, in Islam, must walk as he toils and strives to reach his Creator (*Allah*) (Murad, 2008, p. 2). *Shariah* includes both faith and practice. It embraces worship, individual attitude and conduct, as well as social norms and laws, whether political, economic, familial, criminal, or civil (Murad, 2008, p. 4). God (*Allah*) revealed the system for the purpose of justice (Ibn Tamiyyah, d. 661 AH/1263 CE), for the happiness of mankind, and for the achievement and the realization of the benefits of man on earth (al-Ghazali, al-Allaf; quoted from Amir, 2010).

In the case of Islamic Capital Market, the SCCs are subject to the Islamic principles in that the implementation of *Shariah* Law affects the type of business activities. Section 3.4 discusses the major regulatory bodies for the Malaysian capital market. Table 3.5 of Section 3.5.3 details the qualitative and quantitative parameters involved in granting *Shariah*-Compliant status to a firm.

In the opinion of Baydoun and Willett (2000), the presence of the Islamic religion affects the way certain accounting measures are interpreted and the manner in which accounting information is disclosed (p. 71). The greater recognition given to implementing Islamic principles and values is seen as a way to combat the problems encountered when dealing with business activities that depend merely on conventional practices. They further argued that Western financial accounting systems (WFAS) are determined by individuals maximizing quantifiable profit maximization as the gauge of successful performance, acceptance of the survival of the fittest rule as the best long-term strategy, the locus focused on the results of the process rather than the environment, disclosure practices based on personal accountability, and limited disclosure of financial information necessary to achieve accountability (p.80). They developed an Islamic theory of accounting and, as opposed to WFAS, agreed that in Islam the business entities should be socially responsible and accountable towards God (*Allah*), community and environment. As *Shariah* required, sufficient information that is rightfully given to the stakeholders should be shared equally in assisting the stakeholders in their economic-religious decision making. Table 2.2 below summarizes the differences between Islamic and Western philosophy in terms of the principles and criteria that should be incorporated in Islamic Corporate Reports.

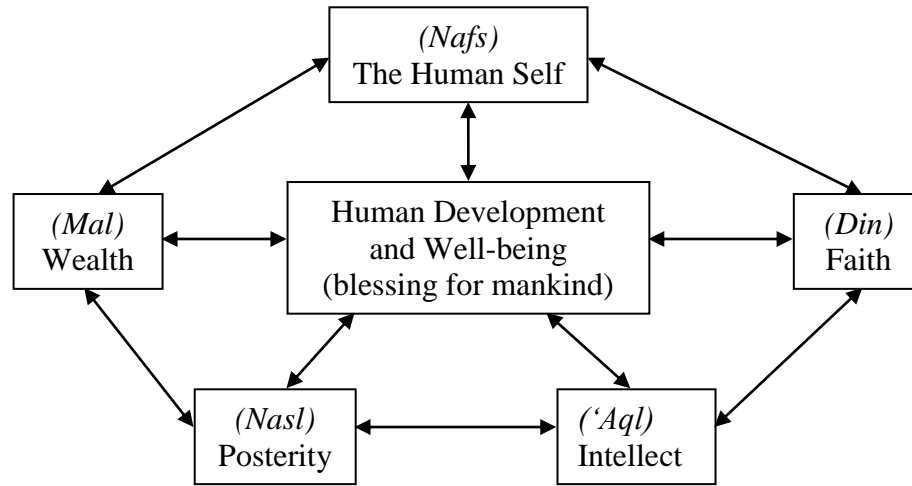
Table 2.2: Summary of Differences in Islamic and Western Philosophy, Principles and Criteria

Characteristics	Western Financial Accounting System	Islamic Corporate Report
Philosophical viewpoint	Economic rationalism	Unity of God (<i>Allah</i>)
Principles	Secular Individualistic Profit Maximization Survival of fittest Process	Religious Communal Reasonable Profit Equity Environment
Criteria	Based upon modern commercial law – permissible rather than ethical; Limited disclosure (provision of information subject to public interest) Personal accountability (focus on individuals who control resources)	Based upon ethical law originating in the <i>Qur'an</i> : (Islamic law, <i>As-Sunnah</i>) Full disclosure (to satisfy any reasonable demand for information in accordance with the <i>Shariah</i>) Public accountability (focus on the community who participate in exploiting resources).

Source: Adapted from Baydoun and Willet (2000), p. 82

Chapra (2008) suggested that the objectives of *Shariah* include invigorating the human self, strengthening faith, the enrichment of the intellect; enrichment of posterity; and development and expansion of wealth, as shown in Figure 2.3 below.

Figure 2.3: Objective of *Shariah*: Human Development and Well-Being to be realized by ensuring the enrichment of the following five elements for every individual.



Source: Adapted from Chapra (2008), p. 6

The Human Self (Nafs)

With respect to the human self, *Shariah* exists to ensure that the needs of human beings are fully satisfied so that the mankind could perform their duties as vice-regents of Allah peacefully, without ignoring the fact that they are responsible for the tasks of increasing and sustaining the human development and well-being (Chapra, 2008, Dean and Khan, 1997). These needs include: dignity, self-respect, human brotherhood, social equality, justice, spiritual and moral uplift, security of life, property and honour, freedom, education, good governance, need fulfillment, employment and self-employment, equitable distribution of income and wealth, marriage and proper upbringing of children, family and social solidarity, minimization of crime and anomie, mental peace and happiness.

Faith (Din)

The first part of the Muslim confession of faith is the basis for the concept of God in Islam. In order to strengthen faith, one should appreciate the relationship between oneself and God. God (*Allah*) has sent his guidance to all people at different times through his messengers Abraham, Moses, Jesus and Muhammad (p.b.u.H). Human

beings should acquire enough knowledge in order to appreciate what has been laid down in the books, especially the *Qur'an*, and subsequently social solidarity and moral uplift could be realised. Faith therefore helps the individual to follow and live according to the values and standards stated.

Intellect ('Aql)

Al-Ghazali (as quoted by Chapra, 2008), considered that intellect is the fountainhead, starting point, and foundation of knowledge. It plays important roles in ensuring that whatever is stated in the *Qur'an* and *Sunnah* are accurately and rationally interpreted. Subsequently, a high quality of education and research that integrates modern sciences and religious sciences is essential in the process of intellect enrichment. It would enable mankind to appreciate the values of their society, increase their skills, face the challenges of modern life, and be able to contribute to the development of modern sciences and technology. Mankind is also capable of doing great harm to its fellow creatures. Therefore, the purpose of *Shariah* is to ensure that intellect is not destroyed or diminished and the objective of human self and faith are well protected.

Posterity (Nasl)

With regards to posterity, noble qualities of character such as honesty, truthfulness, conscientiousness, tolerance, punctuality, a hard-working attitude, politeness etc. should be inculcated in every human in order to generate future generations that are spiritually, physically, and mentally of high quality. Besides a proper upbringing, family integrity, a clean and healthy environment and freedom from fear, conflict and insecurity would also contribute to morally upright and well-educated societies.

Wealth (Mal)

Wealth belongs to God (*Allah*) and human beings are the trustees. In order to ensure that the objectives of minimizing inequalities of income and wealth, and reducing poverty are achieved, wealth needs to be acquired, developed and used honestly, wisely, and conscientiously.

The five objectives of *Shariah* as explained above and, as depicted in Figure 2.3, are interdependent and support each other. In Islam, happiness and success in this life and hereafter is measured through the closeness of mankind to or distance from the God (*Allah*). Men would be pleased about the implementation of *Shariah* Law if they could appreciate the concept of ‘wisdom behind rulings’ as put into practice by Islam (Auda, 2008, p. 2). *Shariah* brings mutual benefit to the people, irrespective of their race, colour, age, sex or nationality; it is also closely linked to justice, compassion, and the attributes of the God. It instills the consciousness of God (*Allah*) in every human who believes in the concept of the existence of God (*Allah*). As Imam Shamsuddin ibn al_Qayyim (d. 748 AH/1347 CE; quoted in Auda, 2008, p. 50) explained:

Shariah is all about wisdom and achieving people’s welfare in this life and the afterlife. It is all about justice, mercy, wisdom, and good. Thus, any ruling that replaces justice with injustice, mercy with its opposite, common good with mischief, or wisdom with nonsense, is a ruling that does not belong to the Shariah, even if it is claimed to be so according to some interpretation.

The sense of responsibility and accountability towards the Creator, in this world and hereafter, establishes the situation where systems are operated with love and fear of Him and belief that the whole system does not exist merely among mankind. Therefore, the concept of Divine Unity in Islam is able to shape proper socio-economic development through secured savings, investments, consumption, and production systems (Choudhury 2000).

Islam and Islamic Sharia do not merely represent a ‘personal’ religion, they also imply a mode of organizing society and its institutions, as well as serving as a guide for the conduct of individuals within the institutional and social context (Tinker, 2004, p. 452; quoted in Kamla et al., 2006, p. 248;)

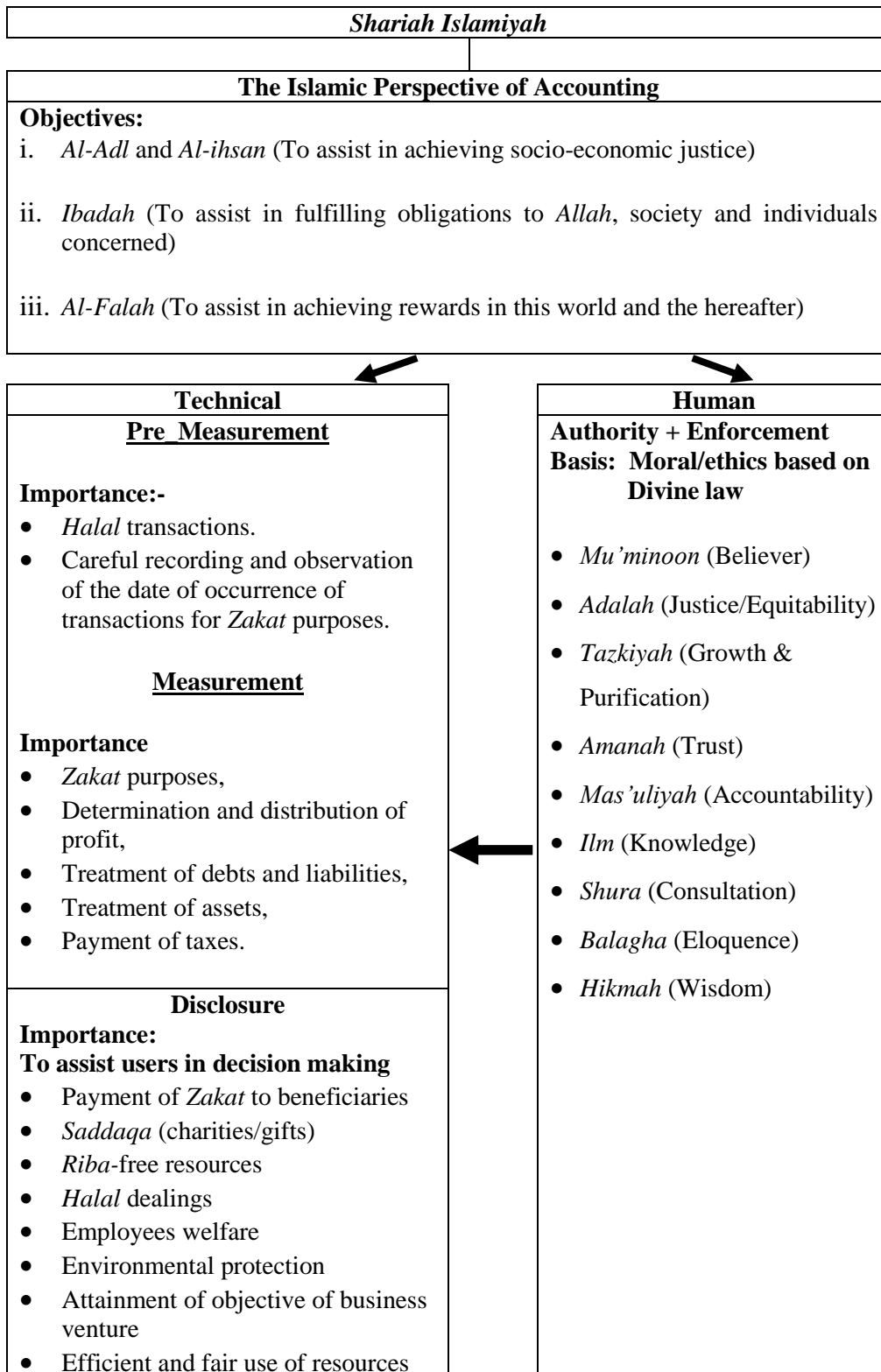
In line with Islamic socioeconomic theory, business activities should be able to bring benefits to mankind; for example, they should be able to reduce the distributional gap and maximize the utilization of economic resources (Al-Rimawi, 2001). Additionally, they should only involve activities that could ensure that the concepts of justice, fairness, and honesty are practiced.

Interestingly, a framework provided by Haniffa and Hudaib in 2002 which sets out the “Islamic Perspective of Accounting” (IPA) (see Figure 2.4) allows management to view the relationship between measurement of earnings and disclosure of accounting information on the basis of *Shariah Islamiah*. It includes the objectives of IPA, and the technical and human aspects that should be considered in preparation of the accounting information. This framework could be used by management to benchmark conventional accounting practices with IPA requirements and as a guide in the preparation of annual reports.

The IPA has been developed from four sources; these are: the *Qur’an*, *Hadith* (sayings, approvals of the Prophet Muhammad, peace be upon Him, during his lifetime), *Ijma’* (a consensus of Muslim scholars which is applied only in the absence of an explicit answer to the issue in question), and from *Qiyas* (the analogical deductions from the other three sources for contemporary issues that are not directly mentioned in those sources but have similar characteristics to those that existed in the past) (Haniffa & Hudaib, 2002, p. 12).

Haniffa and Hudaib (2002, p. 14) also stated that the moral aspects of Islam are underpinned by the concepts of unity, faith, piety, righteousness, worship, responsibility, free will, trust, and belief in *Allah*, as well as to promote what the *Qur’an* recognizes to be right and to forbid what it considers to be wrong, and to strive for the good of humanity. Therefore, when the management conforms to the above enjoinders, they can be considered as fulfilling a form of worship.

Figure 2.4: Theoretical Framework of the Islamic Perspective of Accounting



Source: Adapted from Haniffa, and Hudaib, (2002, p. 20)

Figure 2.4 above demonstrates that for management to achieve the objectives of *Shariah Islamiyah*, namely socio-economic justice; fulfilling obligations to Allah, society and individuals concerned; and achieving rewards in this world and the hereafter, the human and technical aspects of managing firms should be based on the Divine law. They should lawfully, ethically, morally, and socially responsible in avoiding dealings with illegal and harmful activities either to the firms, community, or environment.

With regards to disclosure, as noted by Haniffa and Hudaib (2004, p. 26), material and relevant information is that which would affect economic and religious decisions for users, and also all information that helps the firm (of which the accountant is an agent) to demonstrate its accountability to God (*Allah*) and society. It is the duty of information providers to disclose as much as possible to clear their conscience as a trustee, and for users to filter the information and form their own opinions. In assisting users in making decisions, information disclosed should also be given an important consideration. Payment of *Zakat* to beneficiaries, *Saddaqa* (charities/gifts), *Riba*-free resources, *Halal* dealings, employees' welfare, environmental protection, attainment of the objectives of the business venture, and efficient and fair use of resources should be fully disclosed.

Haniffa, Hudaib and Mirza (2005) suggested that information related to firms' involvement in lawful business transactions, avoidance of usury activities, fulfilment of obligations and duties as prescribed by *Shariah Islamiyah*, charities or gifts generously made to society, reasonable wages paid to employees and priority given to employees' welfare, concern for the environment and resources in the business endeavour, and production of products not harmful to society, should be properly disclosed in financial reports as these items of information are seen to be in accordance with the context of *Shariah Islamiyah*.

With reference to earnings reported, all information provided to users must be free from bias and truthfully represented, in line with the principle of reliability. This means that the figures provided should not be misleading, have not been manipulated

for specific purposes, and that vital information that may affect users' economic and religious decisions has not been concealed. All business transactions should be recorded by a good man who possesses high moral conduct and can be just and fair to all (*Al-Qur'an*, 2: 282-283 and 21:47 as quoted by Abu-Tapanjeh, 2009, p. 563) so that the stakeholders could accurately determine the amount of distributable profit, and the amount of *Zakat* they are obliged to pay. Moreover, it could also help them in handling debts and liabilities, assets, and payment of taxes.

Furthermore, Gambling and Karim (1991, p. 3) pointed out that the management should be able to demonstrate what has been going on and, in particular, to be able to arrive at a definite figure of net income for a given entity over a given period of time. The presence of Islamic principles is expected to influence the management in ensuring the financial reporting quality is of high standard. Additionally, Abu-Tapanjeh (2009) argued that, since the management of business entities are accountable to God (*Allah*), they are responsible for ensuring that the information required by the stakeholders to make sound decisions is easily accessible, accurately presented, transparent, and true and reasonably disclosed. The primary feature of an Islamic economy is to give rise to a just, honest, fair, and balanced society as envisioned by Islamic ethical values and rules (Abu-Tapanjeh, 2009, p. 557).

With regard to the public's expectation when involved in business, especially with a business entity that has claimed for itself to be fulfilling *Shariah* principles, previous studies have suggested that market players preferred businesses that were Islamic and had impressive financial reputations, were able to offer high quality services, practice good social responsibility, were convenient to deal with, and offered reasonable prices for the product (Dusuki & Abdullah 2007). Additionally, investors also looked forward to capital markets that were free from elements of speculation, chance, excessive risks, uncertainty with respect to subject matter, place, time of delivery, *Riba* or *Gharar*, and non-*Halal* or prohibited activities, as specified in the *Qur'an*, *Hadith*, *Qiyas* or *Ijma* (Al-Rimawi (2001). Furthermore, the information provided by those business entities should enable investors to fulfil three interrelated dimensions of *Shariah Islamiyah*, i.e. fulfilment of duties and obligations to *Allah*,

society and oneself, respectively, and to demonstrate accountability (Haniffa & Hudaib, 2004).

In Malaysia, the influence of *Shariah* Law in the management of firms could be seen as a factor motivating management to disclose more relevant information and report a high quality of earnings. The IPA framework could act as guidelines in the problem area. IPA is expected to facilitate stakeholders in the process of understanding and analysing of complex business phenomena, to aid the decision making processes, and to provide a basis for predicting what might occur.

2.4.2 Other Theories Related to Earnings Quality and Disclosure

In addition to the Islamic Perspective of Accounting and the Islamic Theory of Accounting discussed above, there are several other theories that are related to the development of hypotheses in Chapters 5, 7, and 8; and development of disclosure checklist in Chapter 6; they are discussed in this section. Disclosure theories include Agency Theory, Stewardship Theory, Stakeholder Theory, Institutional Theory, Legitimacy Theory, Signalling Theory, Capital Need Theory, Environmental Determinism Theory, Cost-benefit Theory, and Political Cost Theory (Arshad, 2009; Haniffa, 1999, and Suphakasem, 2008). However, this study only reviews Institutional Theory, Environmental Determinism Theory, Agency Theory, Signalling Theory, Stakeholder Theory, and Legitimacy Theory because these theories are sufficient to assist in the development of hypotheses in this study and in discussions of the empirical findings revealed in the aforementioned chapters and in the conclusion chapter, Chapter 9.

2.4.2.1 Institutional Theory

Institutional theory links an organization's social and institutional dimensions to its environments (Moll et al., 2006). The theory suggests that to ensure the survival of an organization, management should get support from stakeholders and comply with the accepted rules and regulations. The theory also suggests that in order to be

accepted, firms and their managers may replicate the strategies of other successful companies in executing their main tasks. Firms of the same industry would normally have the same procedures for reporting financial and non-financial information, and similar responses to the environment, economic, and political changes (Ball & Shivakumar, 2005; Camfferman & Cooke, 2002; Inchausti, 1997; Moll et al., 2006; Palepu et al., 2004; Wallace et al., 1994). They may adopt different practices to serve different roles and at the same time still be able to achieve similar objectives, such as being in line with the institutionalized context and being able to improve the firm's performance (Gupta et al., 1994; Ribeiro & Scapens, 2006; Robey & Boudreau, 1999; Beliveau et al., 1994). Accordingly, the quality of earnings reported and information disclosed are expected to be affected by the nature of business (Dechow & Schrand, 2004).

When it comes to financial reporting quality, specifically earnings reported and social disclosure, in general rules, blueprints for action, standard operating procedures, rationalizing techniques, formalization, and documentation in the industry are all ready for management teams to refer to, replicate, and implement in their firms (Gupta et al., 1994; originally from Meyer & Rowan, 1977; and Scott, 1987). Subsequently, with all the resources ready, necessary tasks can be carried out with little effort by management in order to verify to the public that they have professionally, ethically, and morally accomplished their responsibilities.

Hence, in this study, this theory is empirically examined in order to observe whether additional regulations imposed on the *Shariah*-compliant companies and different types of industries would result in different levels of earnings quality and Islamic social disclosure.

2.4.2.2 Environmental Determinism Theory

Clark and Dawson (1996) stated that personal religiousness influences the way individuals discharge their duties. They argued that it probably would have an impact on ethical conduct. To support their arguments, they distributed questionnaires to 162 university business students to investigate whether personal religiousness influences the formation of ethical judgments on business activities. Empirical evidence from their study suggested that differences in ethical judgments among persons may be influenced by personal religiousness.

With regard specifically to Islamic studies, as Dean and Khan (1997) have pointed out, it is essential to differentiate between cultural practices of Muslim societies and Islamic principles, because Islam is a religion and an ideology, whereas cultural practices in general do not always conform to what has been stated in the *Qur'an* or the *Sunnah*; nor are they necessarily based on *Ijma* and *Qiyas*. Similarly, as Baydoun and Willett (2000, p. 74) stated in their paper:

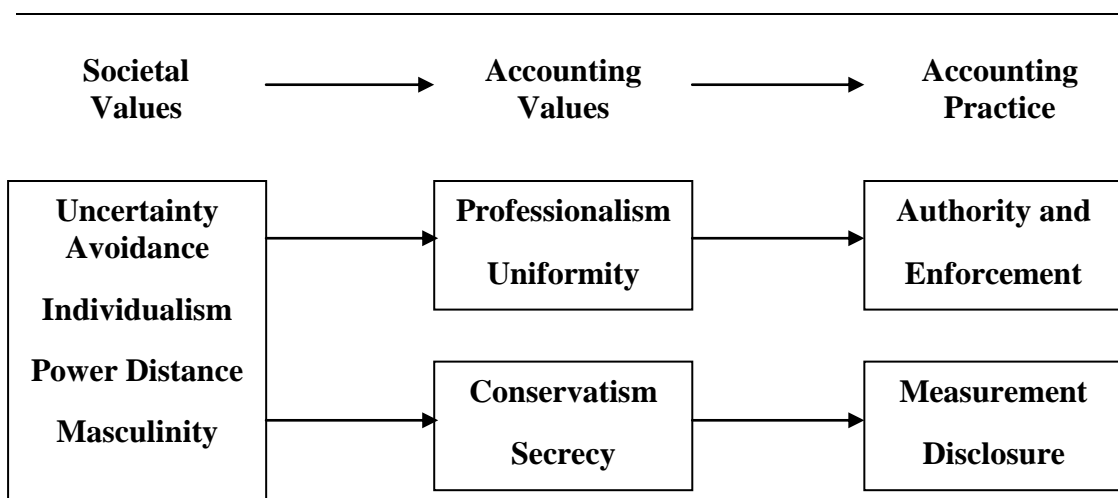
Islamic values are not necessarily commonly shared cultural values in the sense used by Hofstede (1980, 1991). Under this view, Islam, irrespective of the other shared cultural values of a community, prescribes a broad framework for life and focuses on the religious context of a culture rather than on religious beliefs as a subset of a wider set of cultural beliefs. Generally speaking, the religious scholar, whether Islamic or otherwise, would consider the very concept of religion to be more than simply a culturally conditioned response to events, either at the level of the personality or at the level of society (e.g. Otto, 1917, Elaide, 1958).

In the case of Malaysia, as defined by the Federal Constitution of Malaysia, Malays must be Muslim, regardless of their ethnic heritage; otherwise, legally, they are not classified as Malay. Additionally, according to the definition, Malays are expected to speak the Malay language and adhere to Malay culture. As Islam is dominant as well as closely associated with Malays, who are imbued with Malay culture, the arguments made by Baydoun and Willet (2000, p. 74) regarding the idea that Islamic beliefs are a part of culture are then subject to further investigation in this study.

In addition to IPA, a theory that is appropriate to refer to when discussing cultural factors is the Environmental Determinism Theory proposed by Cooke and Wallace (1990). It concerns how the environment, especially cultural factors, might affect accounting practices. Cooke and Wallace (1990) argued that the nature of accounting and financial reporting in a country is a function of its environment. It is influenced by the culture, economic, political, and legal systems (Taylor & Turley, 1986). This idea was also propounded by Smith et al. (2005) and Dechow and Schrand (2004). Previous studies carried out in various countries found that cultural factors have a significant association with financial reporting quality and accounting practices (Doupink, 2008, Han et al., 2010; Guan et al., 2005; Hope, 2003; Sudarwan & Fogarty, 1996, Tsakumis, 2007).

Gray (1988) claimed that cultural factors have a significant influence on accounting practices. He proposed a theoretical framework for analysing the impact of culture on the development of accounting systems, in which four dimensions of accounting subcultural values have been identified, namely professionalism, uniformity, conservatism, and secrecy. He linked the cultural values with societal values (identified by Hofstede, 1980 and 1983). The accounting systems and the relationships are as shown in Figure 2.5 below.

Figure 2.5: The Relationship between Societal Values, Accounting Values, and Accounting Practices – Gray’s Theoretical Framework



Source: Adapted from Fechner and Kilgore (1994, p. 269)

Gray (1988, p. 268) described the features of the accounting subculture values as including but not limited to the following:

Professionalism versus Statutory Control

– a preference for the exercise of individual professional judgment and the maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control.

Uniformity versus Flexibility

- a preference for the enforcement of uniform accounting practices between companies and for the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies.

Conservatism versus Optimism

– a preference for a cautious approach to measurement so as to cope with the uncertainty of future events as opposed to a more optimistic, laissez-faire, risk-taking approach.

Secrecy versus Transparency

– a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open, and publicly accountable approach.

He further argued that these values represent value dimensions that are widely recognized. However, as a multicultural country, the Malaysian population consists of various ethnic groups who are generally free to maintain and practice their own cultural values and religious beliefs (Mohd Iskandar & Pourjalali, 2000). The two main ethnic groups that dominate Malaysian business are the Malays and the Chinese (Haniffa & Cooke 2002). The Hofstede-Gray cultural theory is relevant to the Malaysian environment; however, as Haniffa and Cooke (2002) found, it is difficult to operationalize. Therefore, in this study a cultural dimension of the Malaysian environment provided by Haniffa and Cooke (2002), as depicted in Table 2.3 below, is referred to, even though the relationships are expected to be different when the accounting practices are viewed in the Islamic context.

Table 2.3: The Interrelationship between Societal Values, Transparency and Accounting Practice

Hofstede's societal values	Ethnic Group	Gray (1988)	
		Measurement	Disclosure
Malay			
Uncertainty Avoidance	High	High Secrecy	Low Disclosure
Individualism	Low		
Power Distance	High		
Masculinity	Low		
Chinese			
Uncertainty Avoidance	Low	Low Secrecy	High Disclosure
Individualism	High		
Power Distance	High		
Masculinity	Low		

Source: Adapted from Haniffa and Cooke (2002, p. 325)

Strong versus Weak Uncertainty Avoidance

Hofstede (1984a, p. 83) stated that societies with strong uncertainty avoidance maintain rigid codes of belief and behaviour and are intolerant towards deviant persons and ideas. As Malays are closely associated with Islamic principles, this ethnic group would avoid any uncertainties or ambiguities in business dealings. Any activities containing elements of speculation, chance, and excessive risks are unacceptable (Al-Rimawi, 2000; Haniffa & Cooke, 2002). On the other hand, the Chinese are less concerned about uncertainties or ambiguity. In Malaysia, members of this ethnic group are well known for their willingness to take a risk.

Individualism versus Collectivism

As Islam insists its believers minimize inequalities of income, and practice the benefits of wealth sharing (Choudhury, 2008), one would expect that Malays will work together for the benefit of community rather than for themselves. If individualism is referred as a personal freedom rather than family, community, and national involvement (Mohd Iskandar & Pourjalali, 2000), then the concept applicable to Malays, specifically Muslims, is collectivism rather than individualism. The Chinese, on the other hand, are considered as a group to be more concerned about their own benefit and that of their immediate family. This could be due to the

socioeconomic structures (Haniffa & Cooke, 2002) or to an individualistic perspective of life (Baydoun & Willett, 2000).

Large versus Small Power Distance and Masculinity versus Femininity

Mohd Iskandar and Pourjalali (2000) argued that people in societies with large power distance accept a hierarchical environment, whereas those within societies with small power distance strive for power equalization and demand justification for power inequalities (p. 133). With respect to masculinity, the authors stated that masculinity emphasizes performance and visible achievements, while femininity refers to different values such as quality of life, modesty, and a caring society.

Malays and Chinese are both considered to be groups that have both large power distance but low masculinity (Haniffa and Cooke, 2002). It is believed that the Malaysian community, specifically the business environment, is able to shape both ethnic groups to maintain positive attitudes such as accepting the hierarchical order, being loyal to the ruler, being more considerate, caring for the weak, and being concerned about the quality of life (Hofstede, 1984; Haniffa & Cooke, 2002).

Haniffa and Cooke (2002) claimed that, in terms of accounting practice, Malays are more secretive and therefore would disclose less information as compared to the Chinese. However, as argued before, Islamic values emphasize the duty of information providers to disclose as much as possible, and information provided should be free from material errors. This is to aid the users in making economic and religious decisions, as well as forming their own opinions. Therefore, based on their religious beliefs, Malays are expected to be less secretive and have higher levels of disclosure than the Chinese. Since Chinese are more individualistic, they may be more likely to keep information for themselves and their family members.

2.4.2.3 Agency Theory

Jensen and Meckling (1976) defined agency relationship as a contract under which one or more persons (the principal/s) engage another person (agent) to perform some service on their behalf which involves delegating some decision making authority to the agent (p.308). According to DeAngelo (1986, p. 400), Agency Theory posits that accounting numbers play a central role in mitigating conflicts of interest between insider-managers and outside stockholders of public corporations. The managements and shareholders would work together as a team for a common benefit (Brealey et al., 2009, p. 691).

However, in normal business activities, agency problems occur and conflicts arise between the two groups. The managers would normally act for their own benefit rather than optimizing the firms' value from the shareholder's viewpoint (Brealey et al. 2009; Birt et al., 2006; Jensen & Meckling 1976; Watts & Zimmerman, 1986). Information asymmetry occurs when the agent has superior access to the information as compared to the owners (Arnold & Lange, 2004; Fraser et al. 2009; Marshall & Weetman, 2007).

Without appropriate monitoring, the existence of separation of ownership and control of a company could create serious problems (Morris, 1987). Managers are more concerned about their job security, rewards, ability to remain in power, and to maximize their own wealth. It is possible that they would become involved in any number of undesirable activities that could indirectly harm the company as well as the other stakeholders but which would benefit them (the managers). They could undertake destructive earnings management activities to achieve their objectives and could also provide less informative disclosures, or vice versa, in order to cover their wrongdoings. Therefore, a transparent system should be in place to avoid agency problems (involving *bonding costs*) (Leftwich, 1980; Watts & Zimmerman, 1986).

Active roles played by investors and family members on the Board in monitoring the management's activities are expected to mitigate these undesirable activities and

therefore reduce the agency problem (involving *monitoring costs*). A satisfactory and adequate amount of information about the firms should also be disclosed to ensure that the agents act in accordance with the objectives of the owners and the company (Leftwich, 1980; Watts & Zimmerman, 1986).

Nowadays, managers are also expected to fulfil the expectations of other stakeholders. Therefore, even the monitoring and bonding costs could be reduced; it is quite difficult to increase the owner's welfare due to the firms' commitment towards the others (*residual cost*) (Leftwich, 1980; Watts & Zimmerman, 1986).

With regard to the firm's characteristics, previous studies have documented that size and leverage affect the attitude of agents towards reporting earnings and disclosing the firm's information. Subsequently, Agency Theory assists this study in the development of hypotheses and in examining the relationship between EQ and ISCR and ownership characteristics. Chapters 5 and 7 discuss the findings of previous studies that provide empirical evidence regarding the relationship between EQ and ISCR and ownership structure and corporate characteristics.

2.4.2.4 Signalling Theory

In general, it is well known that, compared to management personnel, market players have problems gaining access to complete and sufficient information (Arnold & Lange, 2004; Watts & Zimmerman, 1986). Watts and Zimmerman (1986) suggest that, when one party has greater access to information compared to the other, the problem of information asymmetry, or a signalling problem, would exist. In accordance with this situation, Birt et al. (2006) argued that information asymmetries prevent efficient resource allocations, lead to higher transaction costs, lower liquidity, and ultimately may result in the mispricing of a company's shares. Therefore, Signalling Theory could be applied to overcome the problems (Morris, 1987).

Signalling Theory and Agency Theory hold similar positions in recognizing the separation of ownership (shareholders) and management; however, Signalling Theory is more concerned with the quality of information (Inchausti, 1997; Morris, 1987; Watson et al., 2002; Watts & Zimmerman, 1986), and it motivates corporate disclosure in the capital market environment (Watts & Zimmerman, 1986).

Since managers have more information about the value of firms, they could exercise their professional judgments to distinguish themselves from others if their firms are performing (Inchausti, 1997; Verrecchia, 1983; Watson et al., 2002; Watts & Zimmerman, 1986). Furthermore, in order to increase the share prices, they could disclose more convincing information. On the other hand, they could also exploit their position by providing additional information to attract investors if the share prices are undervalued (Watts & Zimmerman, 1986) or the firms are not profitable.

The most important and practical method for management to provide information about the firm's value, achievement, performance, and governance is through financial reporting and disclosure (Healy & Palepu, 2001). Management could disclose good news; or just focus on the firm's financial stability to distinguish the firm from firms performing poorly; or include bad as well as good news as a strategy to retain investor confidence (Ross, 1979). With regard to the attributes that could be referred to when evaluating companies through their annual reports, market-related factors such as type of auditor and the firm's involvement with foreign activities could also be an important signal for the stakeholders to make predictions about the firm's condition. Corporate characteristics such as size, gearings, profitability, and business complexity are also important attributes that should be made known.

2.4.2.5 Stakeholder Theory

According to the view of Stakeholder Theory proposed by Freeman (1984, p.84): “The stakeholder approach is about groups and individuals who can affect the organization, and is about managerial behaviour taken in response to those groups and individuals”. Mitchell et al. (1997) contended that stakeholders’ power to influence the firm, the legitimacy of the stakeholders’ relationship with the firm, and the urgency of the stakeholders’ claim on the firm are the three most important attributes for the management to decide on the level of attention needed to be given to them (p. 854). Freeman (1999) argued that who is dependent on whom, and to what extent, determines the type of influence strategy that will be chosen (p. 201).

Stakeholder Theory treats top corporate managers and the firm as a single entity based on the premise that the corporate managers are in a strategic position in making key decisions and are in contract with other stakeholders (Jones, 1995), and even the owners could exercise their influential power (Bushee 1998; Chung et al. 2002, Collins et al. 2003; Craswell & Taylor 1992; Davies et al. 2005; Hillier & McColgan, 2009; Hillier & McColgan, 2008). The term *stakeholders* applies not only to groups easily characterized by words such as customers or employees but also subgroups of customers and employees who may have distinct (and competing) interests (Jones, 1995), including suppliers, shareholders, external auditors, the state, governments, trade associations, political groups, and communities (Donaldson & Preston, 1995). Furthermore, this theory states that firms are responsible towards their stakeholders for moral and ethical reasons (Culpan & Trussel, 2005).

The common benefits and interests that are shared among firms and stakeholders would help firms to survive in the long term (Smith et al., 2005). Consistent with the above arguments, Jensen (2001) was of the view that Stakeholder Theory is consistent with value maximization or value-seeking behaviour, which implies that managers must pay attention to all constituencies that can affect the value of the firm (p. 13). He further argued that the problem arises due to the conflicting interest between the stakeholders’ and management’s need to prioritize several competing

objectives. Therefore, in creating a good perception among the stakeholders, managements could possibly disburse information to one entity and at the same time retain certain information to the other entity (Dye, 2001).

Therefore, in this study, the disclosure checklist prepared according to the Islamic perspective considers various stakeholder interests as well as what has been stated in the *Qur'an and Hadith*. Information disclosed could aid management teams in justifying their efforts to make sure the firms are operated in a manner that accommodates the stakeholders' expectations (Deegan, 2002). Furthermore, in line with Stakeholder Theory, managers are also responsible for ensuring the earnings reported are of high quality because the survival of firms is of important concern to all.

2.4.2.6 Legitimacy Theory

Legitimacy Theory asserts that "an organisation's management will undertake actions with the intention of generating a perception within the community that the organisation's value system is congruent with the value system of the larger social system of which the organisation is a part" (Lindblom, 1994, quoted in Islam & Deegan, 2010). Additionally, Guthrie and Parker (1989) have stated that Legitimacy Theory is "based upon the idea that business operates in society via a social contract where it agrees to perform various socially desired actions in return for approval of its objectives, other rewards, and its ultimate survival. It therefore needs to disclose enough social information for society to assess whether it is a good corporate citizen" (p. 344). It has common characteristics with Institutional Theory and Stakeholder Theory. The theory concerns a specific strategy that should be applied so that firms would be accepted by society, and would also meet society's expectations. Failure to do so would have a negative implication to the survival of firm (Deegan, 2006). Deegan (2006) further argued that Legitimacy Theory depends on place and time; therefore, to ensure the survival of firms, firms should revise and renew their strategy in order to be reliable and relevant and to conform to the community's changing attitudes and the changing environment (p. 163). However,

in reality, what is expected is normally different from what is perceived. When a legitimacy gap appears, firms have options to reduce it by changing the public's perception of business performance through education and information, or by changing the symbols used to describe a firm's performance (Sethi, 1978, p. 58). In general, the most steadfast strategy implemented by firms involves the disclosure of social information.

This study examined information disclosed by Malaysian companies, specifically companies that were participants in the Islamic Capital Market and which were not banking and financial institutions. Underlying the study was a belief that society's expectations, and more especially those of the stakeholders of SCCs, might differ from the actual actions and behaviour of the companies. Therefore, findings from the study would provide empirical evidence of, and possibly explanation for, the actual practice, that is, whether firms actually provide sufficient and high quality of information to the stakeholders, as would be expected.

The theoretical framework developed from the above discussions is summarised as Table 2.4 below. It demonstrates the relationship between the theories and the independent variables used as proxies to the theories. These independent variables are further discussed and examined in Chapters 5, 7 and 8.

Table 2.4: Relationship between Independent Variables and Theories

Determinants	
Behaviour Theory	Proxies for the Theory
IPA & Institutional Theory	Regulatory Factor <ul style="list-style-type: none"> • Firm Status Market -related Factors <ul style="list-style-type: none"> • Type of Industry
IPA & Environmental Determinism Theory	Cultural Factors (Ethnicity)
IPA & Agency Theory	Ownership-structure Factors <ul style="list-style-type: none"> • Institutional Investors • Top-ten Shareholders • Family members on Board
IPA & Signalling Theory	Market-related Factors <ul style="list-style-type: none"> • Type of Auditor • Foreign Activities Corporate Characteristics <ul style="list-style-type: none"> • Size • Gearings • Profitability • Business Complexity

2.5 Summary and Conclusion

Previous empirical studies and theoretical papers that have been referred to in this chapter provide a broad overview of earnings quality and disclosure, and draw attention to the significance of incorporating the Islamic concept in this study. The comprehensive review of previous research has helped in re-emphasizing the research gap identified in Chapter 1. Furthermore, it has demonstrated that there are some under-researched areas that are important and worth investigating.

First, several approaches have been adopted to evaluate the quality of earnings reported. Most of the studies applied a particular approach without any apparent examination of the suitability of that approach in the specific research setting. This justifies the need to examine the accruals quality models in this study before investigating the relationship between ISCR and EQ. Chapter 4 reports and

discusses the results obtained from the statistical analysis of the models using multiple regressions and mean absolute forecasting errors and mean square forecasting errors of out-of-sample observations.

Second, the focus of some previous disclosure studies has been on mandatory disclosure or voluntary disclosure, namely corporate governance, corporate social disclosure, or social disclosure in the Islamic context. However, when dealing with social disclosure in the Islamic context, the previous research settings are almost entirely limited to financial institutions. This study provides a novel research setting, that is, an examination of the Islamic Capital Market in Malaysia, specifically on *Shariah*-compliant companies (SCC) that are not categorised as financial institutions. Previous studies suggest that, when Islamic principles or values are implemented in companies, researchers, academics, and stakeholders expect that the entities should be different from their counterparts in some discernible manner. The differences could be in terms of the mission and vision of the organisation, services or products offered, accounting practices, the way management conducts the business, information disclosed, or involvement of firms in community activities. Therefore, with the integration of the Islamic Perspective of Accounting framework in this study, it was believed that the study could further add new knowledge and improve the delivery of accounting information, specifically on issues relating to EQ and social disclosure.

Third, apart from the Islamic Perspective of Accounting, this chapter has also reviewed several theories, such as Institutional Theory, Environmental Determinism Theory, Agency Theory, Signalling Theory, Stakeholder Theory and Legitimacy Theory. These theories are expected to influence the management in dealing with reported earnings and disclosure. Recognition of this fact provides a strong justification for this study to investigate factors that can be expected to have a significant relationship to ISCR and EQ. The theories have helped explain the theoretical background, and identify problems associated with earnings quality (EQ), disclosure (specifically Islamic social disclosure (ISCR)), and the relationship between them.

Additionally, discussion on the literature related to the relationship between EQ and regulatory factors, cultural factors, ownership-structure factors, and market-related factors are presented in Chapter 5.

This study has also examined the level of Islamic social disclosure of Malaysian companies. However, discussion on the literature specific to the themes included in the disclosure checklist and factors expected to influence management in disclosing the information to the stakeholders can be found in Chapters 6 and 7.

With regard to the main research objective, that is, to examine the relationship between earnings quality and ISCR, Chapter 8 discusses specific literature relevant to the issues, and reports the empirical evidence obtained from the statistical analyses.

The next chapter (Chapter 3) describes situation in Malaysia and the Islamic Capital Market (ICM) framework.

CHAPTER 3

MALAYSIA: CULTURE, ECONOMIC ENVIRONMENT, REGULATORY FRAMEWORK, AND ISLAMIC CAPITAL MARKET

3.1 Introduction

This chapter describes the general situation in Malaysia and the Islamic Capital Market (ICM) framework. The previous chapters discussed the significance and importance of this study in examining Malaysian companies based on their contribution to the practice (Chapter 1) and literature (Chapter 2); the main objective of this chapter is to justify why the study focuses on the relationship between Earnings Quality and Islamic social disclosure in Malaysia, based on the Malaysian population, the country's economic conditions, and regulatory bodies.

Understanding the population of Malaysia, the national language, culture, ethnicity, economic conditions and the regulatory bodies involved in monitoring the Malaysian capital market (especially the Islamic Capital Market) is important for rationalizing the empirical findings revealed in the later chapters.

Accordingly, **Section 3.2** provides a brief introduction to Malaysia. Details of economic conditions, capital market, and overall indicators are reported in **Section 3.3**. **Section 3.4** discusses the regulatory bodies responsible for monitoring capital market activities in Malaysia, and **Section 3.5** explains the ICM in Malaysia, which is expected to influence the behaviour of the management and people responsible for preparing annual reports. Finally, **Section 3.6** summarizes and concludes the chapter.

3.2 A General Introduction to Malaysia

According to a report by the Economic Planning Unit of the Prime Minister's Department, Malaysia, the population of Malaysia was almost 28 million in 2007, consisting of two different categories and various ethnic groups, namely (a) Citizens: *Bumiputera* Malays (51%), Other *Bumiputera* (11%); Chinese (23%), Indian (7%); others (1%), and (b) Non-citizens (7%). Even though its population is multi-ethnic, multi-religious, and multi-cultural, Malaysia is very largely a Muslim country.

The national language of Malaysia is *Bahasa Malaysia* but many people in Malaysia speak other languages such as Mandarin, Chinese dialects, Tamil, and various other dialects. However, for business purposes, English is widely used. In general, companies in Malaysia therefore have two versions of annual reports: one version is written in *Bahasa Malaysia* and the other version is written in English. However, for the purpose of this study, only the English versions of annual reports were examined.

3.3 Malaysian Economic Conditions

Malaysia obtained its independence from the United Kingdom on 31 August 1957. As a developing country, and after 50 years of independence, its economic performance is considered satisfactory. Table 3.1 below shows its position in relation to economic and capital market indicators. The economic indicators include Gross Domestic Product (GDP) growth and Gross National Income (GNI) per capita, while the capital market indicators include the Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange (KLSE)) capitalization for the Main Board, Second Board and Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ), and the end-of-period Bursa Malaysia/KLSE Composite Index.

Table 3.1: Economic Conditions and the Capital Market of Malaysia for the Years 1999 to 2007

Year	Economic Indicators		Capital Market Indicators			
			End of period Bursa Malaysia/KLSE Composite Index	Market Capitalization		
	Real GDP Growth (%)	GNI per capita		Main Board	2nd Board	MESDAQ
1999	6.1%	3.8%	812.3	527.6	25.1	-
2000	8.3%	4.6%	679.6	423.9	20.5	-
2001	0.4%	-3.5%	696.1	444.3	20.7	-
2002	4.4%	6.4%	646.3	464.5	16.4	0.8
2003	5.4%	7.8%	743.3	553.9	22.0	3.1
2004	7.1%	11.7%	907.43	692.6	21.3	6.7
2005	5.3%	8.4%	899.79	671.6	15.1	7.8
2006	5.8%	9.9%	1,096.24	818.8	15.2	13.2
2007	6.3%	10.7%	1,445.03	1073.1	-	-

Sources: Malaysia Economic Reports 1999/2000; 2000/2001; 2001/2002; 2002/2003; 2003/2004; 2004/2005; 2005/2006; 2006/2007; 2007/2008; 2008/2009

<http://www.treasury.gov.my>

The Malaysian economy suffered from the world financial crisis in 1998. However, from 1999 to 2000 Malaysia was actually in a period of recovery. As shown in Table 3.1 above, the real GDP growth figures for 1999 and 2000 were quite promising, rising from 6.1% in 1999 to 8.3% in 2000. GNI per capita also improved, from 3.8% in 1999 to 4.6% in 2000. However, due to high-profile corporate scandals and economic recession in the United States, coupled with the continuing weak performance of the Japanese economy, the Malaysian economy was again adversely affected in 2001. The GDP for 2001 dropped to 0.4%, with the GNI shrinking to -3.5%.

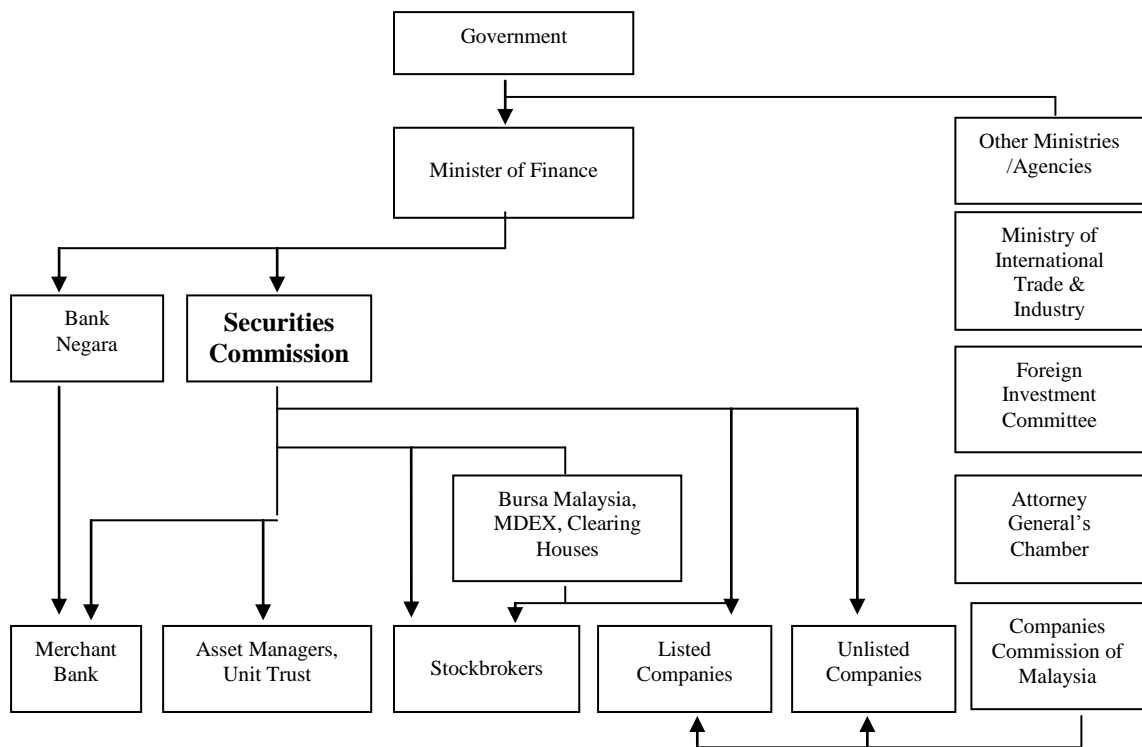
Following a better export performance and continued healthy domestic demand, the Malaysian economy recovered its strong position in 2002 and, starting from that year, it continued to increase and recorded a very impressive performance in 2004 before it declined again slightly in 2005. This was due to external factors such as the high price of world crude oil, rising inflationary pressures and monetary tightening. However, from 2005 to 2007, economic growth in Malaysia remained positive.

When looking at the end-of-period Bursa Malaysia/KLSE Composite Index, from 2000 to 2002 it was below 700, but starting in 2003 and until 2007 the indexes increased by between 30% and 50%. However, when referring to market capitalization, except for the year 1999, as Table 3.1 shows, the figures increased continuously from 423.9 to 1073.1.

3.4 Regulatory Bodies

As suggested by Institutional Theory, for an organization to survive, management should ensure that the entity complies with specified rules and regulations. Malaysia follows common law as the basis for its legal system. However, in order to ensure that the capital market in Malaysia can protect investor confidence and is able to safeguard the stability of the whole system, a comprehensive and clearly defined regulatory framework has been set up, as shown in Figure 3.1. Additionally, to govern the capital market, five main acts have been put in place, including the Securities Commission Act 1993 (SCA), the Security Industry Act 1983 (SIA); the Securities Industry (Central Depositories) Act 1991 (SICDA), the Futures Industry Act 1993 (FIA), and the Companies Act 1965 (CA).

Figure 3.1: Capital Market Institutional Framework



Source: Adapted from Securities Commission (2004). Capital Market Development in Malaysia: History & Perspectives, p. 261.

3.4.1 Securities Commission (SC)

The Securities Commission is the principal regulator of the Malaysian capital market and is accountable to the Ministry of Finance. For the purpose of enforcement and approvals of corporate submissions, the SC works closely with the Ministry of International Trade and the Industry and the Attorney General's Chamber. Bank Negara Malaysia (BNM), the Companies Commission of Malaysia (CCM), and the Foreign Investment Committee (FIC) are the supplementary agencies to the SC, and they are responsible for matters related to their respective regulatory jurisdictions. As stated in *The Capital Market Development in Malaysia: History & Perspectives* (2004, p. 261), the SC's regulatory functions include:

- i. Regulating all matters relating to securities and futures contracts
- ii. Ensuring the provisions of the securities laws are complied with
- iii. Regulating the takeovers and mergers of companies

- iv. Regulating all matters relating to unit trust schemes
- v. Licensing and supervising all licensed persons
- vi. Ensuring proper conduct among the members of market institutions and licensed persons.

Apart from the above regulatory duties, the SC also advises the Minister of Finance on all matters relating to the securities and futures industries; encourages self-regulation; promotes the development of the securities and future markets in Malaysia; and ensures investor protection.

3.4.2 Bursa Malaysia

Bursa Malaysia, which was known as the Kuala Lumpur Stock Exchange until April 2004, was incorporated on 14 December 1976. It is the front-line regulator with respect to stock and futures brokers and listed companies.

During the period of study (1999 – 2007), public listed companies could be listed in the Bursa Malaysia on one of three boards: the Main Board, the Second Board, or the Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ). Large-capital companies with track records are listed on the Main Board, medium-capital companies with track records are listed on the Second Board, and high-growth tech-based companies without track records are listed on MESDAQ.

The number of companies listed on Bursa Malaysia from 1999 to 2007 (the period covered by this study) and their trading value are as stated in Table 3.2.

Table 3.2: Number of Companies listed on Bursa Malaysia Based on Board of Listing and Trading Value

Year	Details	Main Board	Second Board	MESDAQ
1999	Number of Companies	474	283	-
	Trading Value (RM million)	171,500.6	13,748.9	-
2000	Number of Companies	499	296	-
	Trading Value (RM million)	193,077.0	29,233.9	-
2001	Number of Companies	520	292	-
	Trading Value (RM million)	75,466.7	9,545.3	-
2002	Number of Companies	561	292	12
	Trading Value (RM million)	102,566.4	14,171.9	213.2
2003	Number of Companies	598	287	25
	Trading Value (RM million)	75,013.2	14,028.3	2,701.4
2004	Number of Companies	622	278	63
	Trading Value (RM million)	180,408.3	24,948.0	7,905.3
2005	Number of Companies	635	268	107
	Trading Value (RM million)	157,445.4	12,288.4	6,678.9
2006	Number of Companies	658	250	128
	Trading Value (RM million)	205,180.5	16,585.2	25,526.6
2007	Number of Companies	637	-	-
	Trading Value (RM million)	483,352.6	-	-

The Main Board of Bursa Malaysia is the ideal platform for established companies to raise funds. Companies that would like to be listed on the Main Board are required to follow all the listing processes shown on Table 3.3 below.

Table 3.3: Listing Processes (Main Board only)

Step 1:	<ul style="list-style-type: none">• Board approves IPO and appointment of advisers (main adviser/sponsor, reporting accountant, solicitors and other advisers)• Structuring/Pre-consultation with SC• Due diligence/verification of information• Preparation of reports /applications
Step 2:	<ul style="list-style-type: none">• Submission of application and Prospectus to the SC• Public exposure of Prospectus (for 15 market days)• Submit Initial Listing Application to Bursa Malaysia• Processing of application and Prospectus clearance by the SC (within 60 working days)
Step 3:	<ul style="list-style-type: none">• Public exposure of Prospectus ends• Issuance of queries and suggestions for disclosure enhancements
Step 4:	<ul style="list-style-type: none">• Approval from the SC and other authorities• Registration of Prospectus with the SC and Registrar of Companies• Pricing/Signing of underwriting agreement
Step 5:	<ul style="list-style-type: none">• Launch of Prospectus
Step 6:	<ul style="list-style-type: none">• Listing & Quotation of Securities

Source: http://www.klse.com.my/website/bm/products_and_services/listing_bm/process.html

Apart from the above procedures, companies wishing to be listed are also required to fulfil both quantitative criteria tests including the profit test, the market capitalization test, and the infrastructure project corporation test, as well as qualitative criteria tests such as management continuity and capability, and financial position and liquidity.

3.5 ICM in Malaysia

In the 1990s there was a growing awareness and increasing demand from Muslim investors for investments that are managed in accordance with Islamic principles, and the number of Islamic funds in Malaysia increased steadily (from only 2 companies in 1993 to 134 companies in 2007). As a consequence, in 1997 the Malaysian Securities Commission introduced an Islamic Capital Market (ICM) to the public. By doing so, Malaysia became known as a pioneer at the forefront of Islamic finance (Bursa Malaysia, 2006).

The ICM represents an assertion of religious law in capital market transactions inasmuch as the market is free from prohibited activities and elements such as *Riba* (interest), *Gharar* (ambiguity), *Maisir* (gambling) and non-*Halal* (prohibited) food and drinks, as well as immoral activities (The ICM, Bursa Malaysia 2006; ICM Fact Finding Report, 2004). The recognition of these activities and elements are based on the laws and rules derived from the *Holy Qur'an*, *Hadith*, *Ijtihad*, and from *Qiyas*. Collectively, these rules and regulations constitute the *Shariah*, or body of Islamic law.

In order for companies in Malaysia to be listed as *Shariah*-compliant companies, they have to ensure that their activities are carried out in accordance with the principles of Islam and fulfil the qualitative and quantitative criteria set out by the *Shariah* Advisory Council of the Securities Commission, Malaysia.

Furthermore, to increase the competitiveness of *Shariah*-compliant companies, the Malaysian government announced new tax incentives in the Budget of 2007, as listed in Table 3.4 below.

Table 3.4: Tax Incentives Announced in the Budget of 2007

No.	Criteria	Incentive
1.	Local or foreign fund manager located in Malaysia and manages foreign funds in accordance with <i>Shariah</i> principles.	100% tax exemption on management fees earned.
2.	Special purpose vehicle (SPV) set up for Islamic financing in relation to issuance of <i>Sukuk</i> .	Exemption on Income Tax.
3.	Company that establishes the SPV in relation to issuance of <i>Sukuk</i> .	Deduction on the cost of issuance of the Islamic bonds incurred by SPV.
4.	Company issues <i>Sukuk</i> under the <i>Shariah</i> principles of <i>Musyarakah</i> , <i>Mudharabah</i> , <i>Ijarah</i> and <i>Istisna</i> .	Extension of deduction on expenses for <i>Sukuk</i> for another three years until year of assessment 2010.
5.	Company commences its business in Islamic stock broking and must start its business within two years from the date of commencement.	Expenses incurred prior to the date of commencement are tax deductible.
6.	Resident and non-resident individual investors and other local entities that receive dividends from Real Estate Investment Trusts (REITs) listed on Bursa Malaysia.	15% tax rate on dividends received for five years.
7.	Foreign institutional investors, particularly pension funds and collective investment funds that receive dividends from REITs listed on Bursa Malaysia.	20% tax rate on dividends for five years.
8.	At least 90% of REITs total income is distributed to the investors.	Tax exempted from all REITs income

Source: Malaysian ICM. (November 2006). *Quarterly Bulletin of Malaysian Islamic Capital Market by Securities Commission*, 1, pg. 4

3.5.1 Organisations Involved in Governing ICM Implementation

In order to ensure that the Islamic financial products comply with Islamic rules, principles and codes of practice, various Islamic organisations both at international and at national level have been established. The international bodies include the Islamic Financial Services Boards (IFSB), the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI), the International Organisation of Securities Commission (IOSCO), the Liquidity Management Center (LMC), the International Islamic Financial Market (IIFM) and International Islamic Rating Agency (IRA). Apart from formulating appropriate standards, and assessing the regulatory issues, these organisations are important for ensuring that investors' interests are protected, markets are efficient, transparent and fair, and systematic risk is reduced.

Prior to 2006, the Securities Commission (SC) was the main organisation overseeing the Islamic financial system in Malaysia. To facilitate the process of monitoring ICM, the SC established the *Shariah* Advisory Council (SAC) in July 1996. Subsequently, in order to strengthen Malaysia's position as an international Islamic financial centre, the Malaysian government launched the Malaysia International Islamic Financial Centre (MIFC) in August 2006. However, the MIFC is only responsible for creating an innovative and competitive international Islamic financial services industry in Malaysia by originating, distributing, and trading of ICM, treasury instruments, Islamic funds and wealth management services, international currency Islamic financial services, and *Takaful* and re-*Takaful* business (*Securities Commission Quarterly Bulletin*, November 2006, p. 1)

3.5.2 *Shariah* Advisory Council

The *Shariah* Advisory Council (SAC) of the Securities Commission was established under Section 18 of the Securities Commission Act 1993. The members of the SAC consist of Islamic scholars or jurists and Islamic finance experts (The Islamic Capital Market, 2006). The SAC is responsible for advising on all matters related to the

comprehensive development of the Islamic capital market and functions as a reference centre for issues related to the Islamic Capital Market. The SAC has the authority to control and monitor activities carried out by *Shariah*-compliant companies and to ensure that companies seeking to be listed as *Shariah*-compliant companies comply with *Shariah* principles.

3.5.3 The ICM Selection Process

For companies to be granted status as *Shariah*-compliant Companies; there are certain procedures required to be followed. Basically, there are two situations under which the SC undertakes the *Shariah* compliance review.

3.5.3.1 Existing listed companies

The existing listed *Shariah*-compliant companies do not have to apply to be reviewed. The SC will review their audited financial statement for every financial year end, free of charge.

3.5.3.2 During Pre-IPO stage (pre-listing)

The company at this stage, through its corporate adviser, may apply to the SC (voluntarily) to be reviewed and obtain *Shariah* status before listing. The SC will charge a perusal fee to the company. Submission for listing or bond/*Sukuk* approval must be done through a corporate adviser such as an investment bank, universal broker, etc. Advisers will prepare the documentation on behalf of their client. When the company (through the corporate adviser) submits the application for listing, it can concurrently apply to be reviewed for *Shariah* status.

In the SC, the listing application will go to the Securities Issues Department (SID), while application for *Shariah* status will go directly to the Islamic Capital Market Department (ICMD). ICMD acts as the secretariat to the SAC. ICMD will prepare and analyse the report and present it to the SAC for the final decision on listing. The

ICMD relies on audited financial statements (checked and approved by qualified auditors) for basic information about the company. For detailed information, the ICMD will make direct requests to the company or to the corporate adviser (in the case of pre-listing applications).

The due diligence checks for listing approval include site visits undertaken by the SID. Thus, site visits for *Shariah* status are unnecessary but if the company is involved in marketing, producing, or manufacturing food and food-related products they must obtain the *Halal* certification from the Department of Islamic Development Malaysia (JAKIM) (for a local company) or any other bodies recognized by JAKIM for a foreign company.

The ICMD analyses only the activity that generates income for the company. When the company is assigned as *Shariah*-compliant, it means that the shares issued by the company are *Halal* for Muslim investors to subscribe to, and thus any return from the shares is also *Halal*.

By having *Shariah* status at this stage, the company may inform investors through their prospectus or other channels that their shares have been classified as *Shariah*-compliant by the SAC of the SC. This classification provides an extra advantage to the company because individual investors as well as Islamic institutions like Islamic unit trusts and *Lembaga Tabung Haji* (Pilgrims' Management Trust) may subscribe to its IPO shares. If the company has not applied for the *Shariah* status at this stage, investors may have to wait until post-listing (refer to situation 1 above) to find out the *Shariah* status of the company.

Additionally, in the process of granting a company *Shariah*-compliant status, the *Shariah* Advisory Council of the Securities Commission will refer to various sources of evidence, such as company annual financial reports, company responses to survey forms, inquiries made to the respective company's management, and continuous monitoring to ensure that the company complies with the requirements (The Islamic Capital Market, 2007, p. 13). Qualitative and quantitative criteria set out by the

Shariah Advisory Council of the Securities Commission, Malaysia, as set out in Table 3.5 below, have to be fulfilled by companies listed as *Shariah*-compliant as well as by companies seeking to be listed as *Shariah*-compliant companies.

Table 3.5: The Islamic Capital Market: Selection Process

<p><u>Parameters:</u></p> <p><u>Qualitative Parameters</u></p> <p>The general criteria in evaluating the status of <i>Shariah</i>-approved securities are that the companies are not involved in the following core activities:</p> <ul style="list-style-type: none"> • Financial services based on <i>Riba</i> (interest) • Gambling • Manufacture or sale of non-<i>Halal</i> products or related products • Conventional insurance • Entertainment activities that are non-permissible according to <i>Shariah</i> • Manufacture or sale of tobacco-based products or related products • Stock broking or share trading in non-<i>Shariah</i> approved securities • Other activities deemed non-permissible according to <i>Shariah</i>. <p>The SAC also takes into account the level of contribution of interest income received by the company from conventional fixed deposits or other interest-bearing financial instruments. In addition, dividends received from investments in non-<i>Shariah</i> approved securities are also considered in the analysis carried out by the SAC.</p> <p>For companies with activities comprising both permissible and non-permissible elements, the SAC considers two additional criteria:</p> <ul style="list-style-type: none"> • The public perception or image of the company, which must be exemplary • The core activities of the company must be considered <i>Maslahah</i> (in the public interest) to the Muslim <i>Ummah</i> (community) and the country, and the non-permissible elements present must be minimal and involve matters such as ‘<i>Umum balwa</i>’ (common plight and difficult to avoid) and ‘<i>Uruf</i>’ (custom).
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Sources: Adopted from Bursa Malaysia (2006). *The Islamic Capital Market*, pp.6-8

Table 3.5: The Islamic Capital Market: Selection Process (continuation)

Quantitative Parameters

To determine the tolerable level of mixed contributions from permissible and non-permissible activities of a company towards revenue and profit before tax, the SAC has established several benchmarks based on *Ijtihad* (reasoning from the source of *Shariah* by qualified *Shariah* scholars).

If the contributions from the non-permissible activities exceed the benchmark, the securities of the company will not be classified as *Shariah* approved.

The benchmarks are:

- **The 5% benchmark**
This benchmark is used to assess the level of mixed contributions from the activities that are clearly prohibited such as *Riba* (interest-based companies such as conventional banks), gambling, and activities derived from liquor and pork which are deemed *Haram* (prohibited).
- **The 10% benchmark**
This benchmark is used to assess the level of mixed contributions from the activities that involve the element of *Umum balwa* (prohibited element affecting most people and difficult to avoid). An example of such a contribution is the interest income from fixed deposits placed in conventional banks. This benchmark is also used for tobacco-related activities.
- **The 25% benchmark**
This benchmark is used to assess the level of mixed contributions from the activities that are generally permissible according to *Shariah* and have an element of *Maslahah* (public interest), although there may be other elements that could affect the *Shariah* status of these activities. Among the activities that belong to this benchmark are hotel and resort operations, share trading, stock broking, as these activities may also involve related activities that are deemed non-permissible according to *Shariah* rules.

Sources: Adopted from Bursa Malaysia (2006). *The Islamic Capital Market*, pp. 6 -8

The list of securities approved by the SAC is updated annually in April and October. According to reports provided by the Securities Commission, the number of *Shariah*-compliant (SCC) companies gradually increased from 1999 to 2007, even though the processes of granting the status are strict and inflexible. The figures are set out in Table 3.6 below.

Table 3.6: Number of Companies Listed on Bursa Malaysia Based on SCC/SNC

Year	<i>Shariah</i>-Compliant (SCC)	<i>Shariah</i> Non-Compliant (SNC)	Total
1999	278	196	474
2000	319	180	499
2001	364	156	520
2002	395	166	561
2003	436	162	598
2004	477	145	622
2005	494	141	635
2006	523	135	658
2007	519	118	637

From 1999 to 2007, there were also a number of companies that remained listed on the Main Board but had, in fact, been in both the SCC group as well as in the SNC group in different years. The number of such companies totalled 48 and, for the purpose of this study, this group of companies has been categorised as Listed and Delisted (DLL). Chapter 4 will discuss this point in greater detail in the sampling method section.

3.6 Why Malaysia? Summary and Conclusion

To summarise, this chapter presented an overview of the Malaysian environment, economic conditions, regulatory bodies, and the Islamic Capital Market during the period of study, from 1999 to 2007. Points and issues discussed in this chapter provide a strong basis and cogent justifications for the research settings chosen in this study in the following ways:

First, existing in a multicultural society made up of different ethnic groups, companies in Malaysia are all subject to the same rules and regulations, with the exception of the Islamic Capital Market (ICM) introduced by the Securities Commission. Initially, the intention of setting up the ICM was to encourage Malaysian Muslim to invest. However, ICM nowadays attracts international and national stakeholders; and meets the needs of Muslim and non-Muslim investors. The introduction of the elements of *Shariah* Law, as an additional layer of regulations could be expected to have an effect on the management's behaviour when preparing and disseminating financial and non-financial information. Considering the moral imperatives of *Shariah* Law incumbent on management, the level of earnings management activities in Malaysian public listed companies and the depth of disclosure of information related to social commitment in the Islamic context could be expected to be different. The findings could provide new empirical evidence on the effects of regulations, specifically of *Shariah* Law, on the level of earnings quality (EQ) and Islamic Social Disclosure (ISCR). Additionally, the findings could also reveal whether ownership structure and market-related factors have any significant impact on both EQ and ISCR.

Second, the discussion in this chapter of the overall situation in Malaysia, as a unique multicultural country, explains why issues related to cultural and ethnicity issues are raised in this study. With different races and religions, it is conceivable that the introduction of Islamic principles to the Malaysian capital market might contribute to more responsible management practices and create a more productive and conducive environment between stakeholders. According to Environmental Determinism Theory and empirical findings of previous studies (Doupink, 2008, Han et al., 2010; Guan et al., 2005; Hope, 2003; Sudarwan & Fogarty, 1996, Tsakumis, 2007), culture is an environmental factor that can have an influence on accounting practices. In relation to this point, Malaysia, as a multicultural society, with different languages, races and religions, provides an opportunity for researchers to investigate whether culture and ethnicity of management have any effect on the disclosure levels of companies and on the quality of earnings reported by management.

Third, from the data set out in Table 3.1, provides another justification why Malaysia is a country worth examining. The unstable economic conditions experienced by the country during the period of the study could raise another interesting point on the research setting taken under this study. According to previous studies (Akers et al. 2007; Dechow et al. 1996; Healy & Wahlen 1999; Mulford & Comiskey, 2002) management teams can manipulate earnings reported to achieve various objectives; and one of the reasons for this is to misrepresent business performance, especially during an economic crisis (Mulford & Comiskey, 2002). Therefore, within the duration of the study period, it is useful to establish whether there were any differences in the quality level of earnings reported. Would management disclose more information related to social commitment in order to circumvent the company's bad performance? Additionally, from Table 3.1, it can also be seen that only the Main Board of Bursa Malaysia was active throughout the period from 1999 to 2007. Furthermore, its market capitalization represented more than 95% of the total value. The high percentage justifies focusing the study only on companies listed on the Main Board, rather than companies represented on all three boards.

Fourth, the existence of regulatory agencies, as stated in Section 3.4 above, should be able to ensure that the regulations imposed on the market players are well implemented and applied. In line with Institutional Theory and Legitimacy Theory, the discussion of various regulatory bodies involved in the monitoring of the capital market in Malaysia as well as the Islamic Capital Market shows that those responsible for preparing management and annual reports of the selected samples in this study specifically the SCCs are directly accountable to various legislators as well as to the requirements set by the *Shariah* rules. It can be expected that this continuous monitoring would indirectly motivate management to report high quality of earnings and disclose more information than is the minimum required by legislators as well as the requirements set by the *Shariah* rules. Therefore, when the country of Malaysia was selected as the site of the study, it was pertinent to determine whether the *Shariah* principles applied to the Islamic Capital Market would lead to different outcomes and therefore contribute to the EQ and disclosure literature as well as the literature related to regulations issues. Apart from the

Islamic Perspective of Accounting framework, the findings could also provide support for Institutional Theory, Legitimacy Theory and Stakeholder Theory effects.

Fifth, the sample included in this study is sufficiently unique; that is, it consists of companies listed as *Shariah*-compliant companies at the Securities Commission, Malaysia. Little is yet known about *Shariah*-compliant companies in general. When referring to Table 3.6 above, it is evident that the number of companies listed as SCCs are increasing as compared to the number of SNCs. Empirical evidence from Malaysian data could be relevant to *Shariah*-compliant companies elsewhere. Nevertheless, the inclusion in this study of three different groups of companies, (*Shariah*-compliant companies (SCC), *Shariah* Non-compliant companies (SNC) and Listed and De-Listed Companies (DLL)) provides the opportunity to examine whether there are any differences in disclosure practices and earnings quality due to regulatory and institutional differences among the three categories.

Sixth, the selection processes performed by SAC on any organisation before it is considered eligible for inclusion in the Islamic Capital Market, which have been presented in this chapter, support the statement that *Shariah*-compliant companies are required to comply with all conventional rules and regulations as well as with strict *Shariah* rules.

The next chapter, Chapter 4, will undertake a comparative analysis of approaches used to assess earnings quality.

CHAPTER 4

COMPARATIVE ANALYSIS OF APPROACHES TO ASSESSING EARNINGS QUALITY

4.1 Introduction

The main purpose of this chapter is to report the findings for the first research question, which is as follows:

SRQ1: What is the most suitable approach that can be used by Malaysian stakeholders to assess the quality of the earnings reported by Malaysian public listed companies?

This chapter sheds light on the significance or limitations of each of the accruals quality models (Jones, 1991; Modified Jones, 1995; Dechow & Dichev, 2002; McNichols, 2002) as applied in the Malaysian context. **Section 4.2** discusses in detail the four accruals quality models. **Section 4.3** explains the research method and the research design used to identify the accruals quality model that provides the best measurement of earnings. It describes in detail every step from data collection to data analysis procedures performed throughout the study. It further explains the research context which includes an explanation of the sampling period and the criteria adopted in selecting the companies to be sampled. **Section 4.4** reports the descriptive statistical analysis of the data. **Section 4.5** presents the results from the regression analyses that specifically evaluated each of the independent variables and the comparison of the four models, i.e. Jones' (1991) model, Modified Jones' (1995) model, Dechow and Dichev's (2002) model, and McNichols' (2002) (modified Jones' and DD) model. In this section, the most suitable approach (model) is identified. Next, in **Section 4.6**, results from Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) of Out-of-Sample Observations are presented and discussed to support the arguments for the most suitable approach to be adopted. **Section 4.7** presents the robustness test on the models, and **Section 4.8** concludes this chapter.

4.2 Accruals Quality Models

As discussed in Chapter 2, the existing literature on the accruals quality model deals primarily with companies in the developed countries, namely in the United Kingdom (UK) and in the United States of America (USA), and models suggested by previous research in the UK and USA (Jones, 1991; Modified Jones, 1995; Dechow & Dichev, 2002; McNichols, 2002) are subject to further review and analysis in relation to Malaysian data due to regulatory, environment, and institutional differences.

Model 1: Jones Model (1991) (hereafter Jones)

Relevance of the accruals quality model to the current research has its basis in a well-known study by Jones in 1991. Jones' Model is shown in the equation below:

$$TA_{it}/A_{it-1} = \alpha_i [1/A_{it-1}] + \beta_{1i} [\Delta Rev_{it}/A_{it-1}] + \beta_{2i} [PPE_{it}/A_{it-1}] + \varepsilon_{it} \quad (1)$$

where:

TA_{it} = total accruals in year t for firm i

ΔRev_{it} = revenues in year t less revenues in year $t-1$

PPE_{it} = gross property, plant and equipment in year t for firm i

A_{it-1} = total assets in year t for firm i

ε_{it} = error term in year t for firm i

i = 1, ..., N firm index

t = 1, ..., t_i , year index for the years included in the estimation period for firm i

TA includes changes in working capital accounts, such as accounts receivable, inventory, and accounts payable that depend to some extent on changes in revenues.

Jones (1991) modified a model constructed by DeAngelo (1986). In her model, Jones included attributes such as changes in accounts receivable, changes in

inventory, changes in accounts payable, changes in revenues, depreciation expenses, and gross property, plant, and equipment in order to identify the quality of earnings reported by an organisation. These attributes were extracted from the Balance Sheet and Statements of Cash Flow. Unlike DeAngelo (1986), however, Jones excluded the current maturities of long term debt and income tax payable items in her analysis due to missing data in the Compustat tapes from which she obtained her data. She included gross property, plant, and equipment and changes in revenue in her model in order to control for the changes in nondiscretionary accruals caused by changing conditions

Model 2: Dechow and Dichev Model (2002) (hereafter DD)

In 2002, a study done by Dechow and Dichev (2002) (hereafter DD) proposed a model as follows:

$$\Delta WC_t = b_0 + b_1 * CFO_{t-1} + b_2 * CFO_t + b_3 * CFO_{t+1} + \epsilon_t \quad (2)$$

where:

ΔWC_t = change in working capital from year $t-1$ to t

CFO_{t-1} = cash flow from past operations

CFO_t = cash flow from current operations

CFO_{t+1} = cash flow of future operations.

ϵ_t = error term in year t for firm i

$\Delta WC = \Delta AR + \Delta Inv - \Delta AP - \Delta TP + \Delta Other$ assets (net), where AR is accounts receivable, Inv is inventory, AP is accounts payable and TP is tax payable.

In DD's accruals quality model, cash flow from operations was introduced as a new item. Items retained from the Jones model included: changes in accounts receivable, changes in inventory, and changes in accounts payable. Items dropped from the model were: changes in revenue and value of property, plant, and equipment. However, unlike Jones (1991), Dechow and Dichev extracted these items from the

Statements of Cash Flow. They argued that using items extracted from the Statements of Cash Flow could help them avoid a noisy and biased estimates' result.

On the other hand, McNichols (2002) proposed a new improved model to measure the quality of accruals. In her study, she combined both the DD and the Jones models. Her accrual quality model is set out below.

Model 3: McNichols Model (2002) (hereafter McNichols)

$$\Delta WC_t = b_0 + b_1 CFO_{t-1} + b_2 CFO_t + b_3 CFO_{t+1} + b_4 \Delta Sales_t + b_5 PPE_t + \varepsilon_t \quad (3)$$

where:

CFO_t = cash flow from operations in year t

CFO_{t-1} = cash flow from past operations

CFO_{t+1} = cash flow of future operations

$\Delta Sales$ = change in sales deflated by beginning total assets

PPE = property, plant & equipment deflated by beginning total assets

ΔWC = Increase in AR + increase in Inventory + decrease in Accounts Payable and Accrued Liabilities + decrease in Taxes Accrued + increase (decrease) in other Assets (liabilities), deflated by beginning Total Assets.

Similar to the study done by Dechow and Dichev, McNichols extracted the attributes (i.e. changes in accounts receivable, changes in inventory, changes in accounts payable, changes in revenues, changes in tax payable) from the Statements of Cash Flow. Although McNichols combined the two different models, she, however, excluded depreciation items as used in the Jones model for the purpose of consistency with the DD model.

Francis et al. (2005) and Francis et al. (2008) applied the McNichols model in their study but, unlike Jones (1991), Dechow and Dichev (2002), and McNichols (2002), they extracted all the items from the Balance Sheet. The accruals quality (AQ) model used by Francis et al. (2008) is as follows:

$$\frac{\text{TCA}_{j,t}}{\text{Assets}_{j,t}} = b_0 + b_1 \frac{\text{CFO}_{j,t-1}}{\text{Assets}_{j,t}} + b_2 \frac{\text{CFO}_{j,t}}{\text{Assets}_{j,t}} + b_3 \frac{\text{CFO}_{j,t+1}}{\text{Assets}_{j,t}} + b_4 \frac{\Delta \text{Rev}_{j,t}}{\text{Assets}_{j,t}} + b_5 \frac{\text{PPE}_{j,t}}{\text{Assets}_{j,t}} + \varepsilon_t \quad (4)$$

where:

$\text{TCA}_{j,t}$ = firm j 's total current accruals in year t
 $= (\Delta \text{CA}_{j,t} - \Delta \text{CL}_{j,t} - \Delta \text{Cash}_{j,t} + \Delta \text{STDEBT}_{j,t})$

$\text{Assets}_{j,t}$ = firm j 's total assets in year t

$\text{CFO}_{j,t}$ = firm j 's cash flow from operations in year t ,
measured as $\text{CFO}_{j,t} = \text{NIBE}_{j,t} - \text{TA}_{j,t}$

$\text{TA}_{j,t}$ = firm j 's total accruals in year t ,
measured as $(\Delta \text{CA}_{j,t} - \Delta \text{CL}_{j,t} - \Delta \text{Cash}_{j,t} + \Delta \text{STDEBT}_{j,t} - \text{DEPN}_{j,t})$

$\Delta \text{CA}_{j,t}$ = firm j 's change in current assets between year $t-1$ and year t .

$\Delta \text{CL}_{j,t}$ = firm j 's change in current liabilities between year $t-1$ and year t .

$\Delta \text{Cash}_{j,t}$ = firm j 's change in cash between year $t-1$ and year t .

$\Delta \text{STDEBT}_{j,t}$ = firm j 's change in short-term debts between year $t-1$ and year t .

$\text{DEPN}_{j,t}$ = firm j 's depreciation expenses in year t .

$\text{NIBE}_{j,t}$ = firm j 's net income in year t .

$\Delta \text{Rev}_{j,t}$ = firm j 's change in revenues between year $t-1$ and year t .

$\text{PPE}_{j,t}$ = firm j 's gross value of property, plant and equipment in year t .

However, in addition to the above models, a modified Jones Model as below has also been applied by previous researchers. It was proposed by Dechow et al. in 1995. Dechow et al. (1995) and Guay et al. (1996) stated that this model is the most powerful instrument for detecting earnings management activities.

Model 4: Modified Jones Model (1995) (hereafter MJM)

$$TA_{jt}/A_{jt-1} = \alpha_j [1/A_{jt-1}] + \beta_{1j} [(\Delta Rev_{jt} - \Delta Rec_{jt})/A_{jt-1}] + \beta_{2j} [PPE_{jt}/A_{jt-1}] + \varepsilon_{jt} \quad (5)$$

where:

TA_{jt} = total accruals in year t for firm j

ΔRev_{jt} = firm j 's change in revenues between year $t-1$ and year t

ΔRec_{jt} = firm j 's change in accounts receivable between year $t-1$ and year t

PPE_{jt} = gross property, plant and equipment in year t for firm j

A_{jt-1} = total assets in year t for firm j

ε_{jt} = error term in year t for firm j

j = 1, ..., N firm index

T = 1, ..., T_j , year index for the years included in the estimation period for firm j

TA includes changes in working capital accounts, such as accounts receivable, inventory, and accounts payable that depend to some extent on changes in revenues.

The subtraction of the amount of change in accounts receivable from the change in revenue figures in the current period is the main difference of this modified Jones (1991) model from the original Jones (1991) model. The purpose is to reflect the fact that the change in receivables is treated as discretionary (Abdul Rahman & Mohamed Ali 2006; Francis et al. 2006).

Although these previous studies constructed accruals quality models to evaluate the quality of earnings reported, they have some limitations. Nevertheless they serve as a useful framework for the present study.

4.3 Research Method and Implementation

The following sections discuss in detail the research method, research design, and implementation procedures used in the process of identifying the accruals quality model that provides the best measurement of earnings.

4.3.1 Research Design and Data Collection Stage

Studies carried out previously in relation to accruals quality models and earnings quality issues have applied multivariate analysis or/and modelling methods (Barth, Cram & Nelson, 2001; Bowen, Burgstahler & Daley, 1986; Dechow & Dichev, 2002; Dechow, Khotari & Watts, 1998; Finger, 1994; Francis et al., 2005, 2008; Jones, 1991; and McNichols, 2002). While most of the literature on accruals quality models has dealt with companies in the United Kingdom and the United States of America, this study set out to identify the most suitable accruals quality model for Malaysian companies, given that the attributes in the model are manually extracted from company annual reports. Therefore, in line with the work of previous researchers, and in order to achieve the research objectives, multivariate analysis was applied to identify a significant approach (model) that could be used as a tool to assess the performance of Malaysian companies. The seven main phases identified were as follows:

Phase 1:

In the initial phase it was necessary to review the work done by previous researchers to appreciate the nature of arguments surrounding earnings quality issues, as well as earnings management issues.

Phase 2

In Phase 2, annual reports available in the Bursa Malaysia databases, Malaysian Securities Commission (SC) databases, Accounting Research Institute, Faculty of Accountancy University Technology MARA databases and companies' websites were downloaded.

Phase 3

Certain items in the annual reports of Malaysian companies are referred to by different names, such as *Al-Bai Bithaman Ajil* for secured borrowings. Therefore, a list was prepared of items that needed to be extracted, together with their alternative terms (see Table 4.1 below). This was an important step to ensure that reproducibility quality was achieved. “Reproducibility” refers to the extent to which content classification produces the same results when the same text is coded by more than one coder; it measures the consistency of shared understandings (or meaning) held by two or more coders (Krippendorff 2004; Weber 1990).

Table 4.1: Definition of Variables Applied in the Models

No.	Item	Definition	Items Included in the Analysis
1.	$TCA_{j,t}$	Firm j 's total current accruals in year t	<ul style="list-style-type: none">• Changes in Current Assets• Changes in Current Liabilities• Changes in Cash_{j},• Changes in Short-term Debt
2.	$Assets_{j,t-1}$	Firm j 's total assets in the beginning of the year	<ul style="list-style-type: none">• Non-current assets added to current assets
3.	$\Delta CA_{j,t}$	Firm j 's change in current assets between year $t-1$ and year t .	<ul style="list-style-type: none">• Current assets.
4.	$\Delta CL_{j,t}$	Firm j 's change in current liabilities between year $t-1$ and year t .	<ul style="list-style-type: none">• Current liabilities.

No.	Item	Definition	Items Included in the Analysis
5.	$CFO_{j,t}$	Firm j 's cash flow from operations in year t	<ul style="list-style-type: none"> • Cash flow from operating activities; or • Net cash from/(used in) operating activities; or • Net cash generated from operating activities; or • Net operating cash flow • Net cash flow (used in)/generated from operating activities; or • Net cash generated from/(used in) operating activities; or • Net cash inflow from operating activities
6.	$\Delta Cash_j$	Firm j 's change in cash between year $t-1$ and year t .	<ul style="list-style-type: none"> • Deposits, bank and cash balances; and/or • Cash and cash equivalents; and/or • Fixed deposits with licensed banks; and/or • Cash and bank balances; or/and • Deposits with licensed banks; and/or • Cash and deposits; or/and • Deposits with financial institutions; and/or • Bank balances & deposits; and/or • Cash and short-term investments; and/or • Cash at bank and in hand
7.	$\Delta STDEBT_j$	Firm j 's change in short-term debts between year $t-1$ and year t .	<ul style="list-style-type: none"> • Borrowings; and/or • Term loans; and/or • Bank overdraft; and/or • Short-term borrowings; and/or • Bank borrowings; and/or • Other bank borrowings; and/or • <i>Al-Bai Bithaman Ajil</i> (secured); and/or • Bankers acceptance

No.	Item	Definition	Items Included in the Analysis
8.	ΔRev_j	Firm j 's change in revenues between year $t-1$ and year t .	<ul style="list-style-type: none"> • Revenue/Sales/Turnover
9.	ΔRec_j	Firm j 's change in Accounts Receivables between year $t-1$ and year t .	<ul style="list-style-type: none"> • Debtors, • Other debtors • Trade debtors • Other receivables, prepayments • Deposits • Trade Receivables • Trade and other receivables • Trade and other debtors • Receivables • Amount due from customers • Sundry debtors
10.	$PPE_{j,t}$	Firm j 's gross value of property, plant and equipment in year t .	<ul style="list-style-type: none"> • Property, plant and equipment; or • Fixed assets; or • Fixed assets – tangible assets; or • Intangible assets; or • Property, vessels, plant and equipment

Phase 4

Data for financial periods between 1999 and 2007 were extracted manually. During the data extraction and data entry processes, the researcher was also sensitive to transcription and transposition errors (Hall 2004, p. 832). Transcription errors occur when (a) an extra digit or character is added to the figures; (b) a digit is removed from the end of the figures; or (c) replacement of one digit in figures with another. Transposition errors occur when two adjacent digits are reversed. To avoid these problems, the following steps were applied:

- Double-checking of certain items such as:
 - Total Assets = Non Current Assets + Current Assets
 - Non Current Assets = Company worth (balancing figures) -/+ Net Assets/Net Liabilities

- Depreciation = checked at the Income Statement, Statement of Cash Flow and notes to the accounts.
- Comparison of actual and restated data; any discrepancies were further investigated.

Phase 5

All related attributes were transferred to worksheets. From the worksheets, the data were keyed into Excel spreadsheets before carrying out analyses using the SPSS statistical package.

- The extracted data were for actual and restated figures.

Phase 6

Various applications of models were reviewed and tested, employing different variables or attributes in the financial statements. This phase is also known as the analysis phase.

Phase 7

Based on previous models and the analysis, certain attributes in the models were replaced with possible alternative attributes or variables relevant to Malaysian companies, in order to identify a relevant and reliable modified earnings quality model that could be applied to assess the performance of Malaysian companies.

These seven main phases were refined wherever possible from the procedures of management modelling introduced by Mingers and Brocklesby (1997). Adjustments carried out during the research process are necessary to ensure that the model constructed is relevant to the current standard of practice in accounting in the Malaysian context and at the same time consistent with prior literature.

From the above procedures, and for the purpose of consistency throughout the data extraction and analysis process in this study, the following attributes, as per Table 4.2 below, have been used to identify the quality of earnings reported by an

organisation in Malaysia. It defines all the accounting figures included in evaluating the models in this study.

Table 4.2: Attributes Applied to an AQ Model

No.	Item	Attributes	Source
1.	Firm <i>j</i> 's total current accruals in year <i>t</i>	$\Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t}$	Balance Sheet
2.	$Assets_{j,t-1}$	Firm <i>j</i> 's total assets in year <i>t-1</i>	Balance Sheet
3.	$CFO_{j,t}$	Firm <i>j</i> 's cash flow from operations in year <i>t</i>	Statement of Cash Flow
4.	$\Delta CA_{j,t}$	Firm <i>j</i> 's change in current assets between year <i>t-1</i> and year <i>t</i> .	Balance Sheet
5.	$\Delta CL_{j,t}$	Firm <i>j</i> 's change in current liabilities between year <i>t-1</i> and year <i>t</i> .	Balance Sheet
6.	$\Delta Cash_j$	Firm <i>j</i> 's change in cash between year <i>t-1</i> and year <i>t</i> .	Balance Sheet
7.	$\Delta STDEBT_j$	Firm <i>j</i> 's change in short-term debts between year <i>t-1</i> and year <i>t</i> .	Balance Sheet
8.	ΔRev_j	Firm <i>j</i> 's change in revenues between year <i>t-1</i> and year <i>t</i> .	Balance Sheet
9	ΔRec_j	Firm <i>j</i> 's change in Accounts Receivables between year <i>t-1</i> and year <i>t</i> .	Balance Sheet
10.	$PPE_{j,t}$	Firm <i>j</i> 's gross value of property, plant and equipment in year <i>t</i> .	Balance Sheet

The following items were extracted from the Balance Sheet: revenues; value of property, plant and equipment; changes in current assets; changes in current liabilities; changes in cash; and changes in short term debt. However, values for cash flow from operations were extracted from the Statements of Cash Flow. As Dechow and Dichev (2002) claimed, using items extracted from Statements of Cash

Flow could help researchers avoid a noisy and biased estimates' result. Following Dechow et al. (1995), Francis et al. (2008), and McNichols (2002), all the variables above were deflated by the total assets at the beginning of the year to overcome issues of multi-collinearity.

4.3.2 Data Analysis Stage

In line with the work of previous researchers, and in order to achieve the research objectives (i.e. to identify a significant approach (model) that could be used as a tool to assess the performance of Malaysian companies), the procedures for standard multiple regression as recommended by Pallant (2007, p. 15) were applied. The method used for inclusion of variables in the model was Enter. The method chosen was deemed acceptable because the models were already established.

Regression models are normally evaluated based on the usual statistics, among others the residuals, Durbin-Watson (DW), and Adjusted R^2 . Based on Gujarati and Porter (2009, p. 475), if the R^2 is reasonably high, and the DW has an acceptable value (around 2), then the model chosen is a good model. Additionally, this study also examined the p-values and F-Values because the former will immediately convey to the reader the amount of evidence for or against the rejection of Null Hypothesis, and the latter is important in order to test the whole model. Subsequently, since the models are fixed, the study also extended to the overall aptness of the models as indicated by F test's p-value. The individual betas' p-values were also checked to ensure that none indicated zero (which would raise questions about the model). In this study, different units of analysis were used, for example, yearly basis, industry basis, and status basis, with the expectation that a conclusion could be reached as to which one is superior, or to be able to suggest that one, specific model is more appropriate in a particular situation.

As an alternative approach, this study also applied out-of-sample data to evaluate the models. The accuracy of the model depends on how close the predicted values are to the actual values. Following Marshall et al. (2009), a formal testing procedure

(i.e., Mean Absolute Forecasting Error (MAE), Mean Square Forecasting Error (MSE), was conducted to determine the best model among the three. The model that yielded the smallest MAE and MSE was selected as the best model.

4.3.3 Issues Related to Multivariate Analysis and Modelling Methods

Having described the research procedures of this study, the researcher is aware of various issues related to multivariate analysis and modelling methods. Issues such as reliability and validity, assumptions related to serial correlation, linearity, heteroscedasticity, multi-collinearity and normality, and issues on the quantitative research techniques need to be considered. The limitations of quantitative research techniques as stated by Bryman and Bell (2007, p. 174) include the following:

- Quantitative research fails to distinguish people and social institutions from the ‘world of nature’.
- The measurement process encourages an artificial and spurious sense of precision and accuracy.
- The reliance on instruments and procedures hinders the connection between research and everyday life.
- The analysis of relationships between variables creates a static view of social life that is independent of people’s lives.

Therefore, in order to overcome these problems and limitations, a study undertaken by Echambadi, Campbell and Agarwal (2006) was referred to in order to support the findings. Table 4.3 provides a summary of common problems in quantitative research techniques, their consequences and recommended solutions.

Table 4.3: Common Problems, Their Consequences, and Recommended Solutions

Problem/error	Consequence	Solution
<i>Measurement error</i>		
Single item measurement	Biased estimates; attenuation of coefficients in a simple regression; under- or over-estimation of coefficients in a multiple regression.	Use multiple items wherever possible; if not possible, use instrumental variables to correct for measurement error. Alternatively, fix the reliability estimates of single item measures.
Confusion between formative/reflective measures	Invalid estimates due to construct misspecification; inappropriate use of reliability indices in the case of formative measures.	Clearly specify the nature of the relationship between the manifest items and their constructs. Do not use measures to diagnose reliability problems in the case of formative measures.
Use of weak instruments	Invalid inferences due to Type I/II errors.	Use stronger measures as instrumental variables; use estimation techniques that are more robust to weak instruments.
<i>Relationships among variables</i>		
Not showing causality	False substantive inferences.	Use experiments to confirm causality. Granger's causality test can be used in panel data.
Not accounting for endogeneity.	Biased estimates.	Use experiments / panel data to alleviate endogeneity concerns due to reverse causality. Use instrumental variables to account for endogeneity concerns due to an independent variable being a choice variable.

Table 4.3: Continued

Problem/error	Consequence	Solution
<i>Interaction models</i>		
Use of ‘main effects only’ and ‘interaction’ models separately	Estimating a ‘main effects only’ model will lead to an omitted variable bias.	Estimate simple effects and interaction effects simultaneously in a full model
Mean/residual centring to alleviate multi-collinearity	Neither alleviates collinearity. Residual-centring leads to uninterpretable simple effects; mean-centring leads to simple effects that are mathematically equivalent to uncentred models.	Use multiple diagnostics to diagnose co linearity. Also, randomly select and estimate sub-samples to ascertain the stability and plausibility of coefficients. If co linearity is suspected, increase sample sizes to mitigate the loss of power associated with co linearity.
Omission of ‘simple effects’ in interaction models	Interaction term becomes uninterpretable.	Estimate simple effects and interaction effects simultaneously in a full model.
<i>Structural models</i>		
Small sample size in PLS	Unstable coefficients and large standard errors when estimated with small sample sizes.	Use appropriate sample sizes. Examine and report stability of coefficients and variability in standard errors when using small sample sizes.
Dichotomizing continuous data when testing for moderation effects	Leads to a loss of information and hence reduced power.	Do not dichotomize continuous data. If you must, provide robustness tests to demonstrate that the results do not change across different specifications of the dichotomizing threshold.

Source: Adapted from Echambadi, Campbell and Agarwal (2006: pp: 1813-14)

Table 4.3: Continued

Problem/error	Consequence	Solution
<i>Tying results to theory</i>		
Inferences regarding causality.	False substantive inferences.	Be cautious when designing studies, and do not over-claim when interpreting results.
Ignoring 'economic' or 'managerial' significance	Statistically significant estimates may be economically insignificant and thus practically meaningless.	Frame and discuss results so that readers understand if the effects are economically significant.
Ignoring importance of marginal effects in non-linear models	Using the sign and significance of the coefficients alone to interpret the model is not appropriate.	Use marginal effects computed as theoretically appropriate to discuss the correct magnitude of an independent variable.

Source: Adapted from Echambadi, Campbell and Agarwal (2006: pp: 1813-14)

However, the present study covered a greater scope, and assumptions within the study were consistent; therefore quantitative analyses were able to generate theoretical implications from which observational predictions could be represented. Additionally, the model constructed was able to be used to appreciate the actual performance of a company.

4.3.4 Sampling Period and Sample Selection

The population of this study has been drawn from public listed companies listed on the Malaysian Main Board of Bursa Malaysia. For this study, the computation of the accruals quality measure requires lagged and future data. In order to identify which model is the most suitable model for Malaysian data, the analysis covers the financial periods from 1999 to 2007. Looking at the capital market in Malaysia from 1999 to 2007, only the Main Board remained active from 1999 to 2007; furthermore, the market capitalization for the Main Board represented more than 95% of the total market capitalization (see Section 3.3 of Chapter 3).

In line with the existence of the Islamic Capital Market in Malaysia and the aim of this study to examine and discuss the effect of an additional layer of regulations (namely *Shariah* Law) in the accounting practices of Malaysian companies, samples of this study were then selected using a multi-stage cluster sample (see Table 4.4 below). Samples were divided into different status, type of industry, and different years in order to provide results that are more robust; this was done in order to look at various perspectives and to be consistent with previous studies (Barth, Cram & Nelson, 2001; Dechow & Dichev, 2002). Furthermore, this also ensures the consistency of discussions throughout this thesis, where status of company and type of industry are included in testing several hypotheses in later chapters (Chapters 5 and 7).

Table 4.4: Number of Companies Listed on Bursa Malaysia

Year	Shariah-compliant (SCC)	%	Shariah Non-Compliant (SNC)	%	Total
1999	278	59	196	41	474*
2000	319	64	180	36	499
2001	364	70	156	30	520
2002	395	70	166	30	561
2003	436	73	162	27	598
2004	477	77	145	23	622
2005	494	78	141	22	635
2006	523	79	135	21	658
2007	519	81	118	19	637

Of the 474 companies that existed in 1999, only 282 companies (excluding companies in the finance and banking industries) managed to remain on the Main Board through to 2007. The companies were further divided into three groups: *Shariah*-compliant companies (SCC), that is, companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); *Shariah* Non-compliant companies (SNC), that is, companies involved in activities not permitted according to *Shariah*; and, thirdly,

companies that were listed but later de-listed as SCC companies and vice versa (DLL) throughout the period of study (see Table 4.5 below). Companies in the finance and banking industries were excluded from the sample due to a lack of comparability and/or differences in financial reporting regulations (Abdul Rahman & Mohamed Ali 2006; Abd-Elsalam & Weetman 2003; Ball & Shivakumar 2008a; Burgstahler & Dichev 1997; Chan et al. 2006; Elsayed & Hoque 2010; Hassan et al. 2009).

Table 4.5: Criteria for Sample Selection

Selection Criteria	Total
Companies listed as SCC companies from 1999 to 2007	149
Companies never listed as SCC (also known as SNC) from 1999 to 2007	85
Companies listed and de-listed as SCC companies from 1999 to 2007	48
Total	282

However, not all annual reports of these companies were available for the analysis. Furthermore, since the computation of the accruals quality measure requires lagged and future data, the sample period was shortened to the period 2000 to 2006, instead of 1999 to 2007. Therefore, after excluding companies with different rules and regulations, and companies that did not have complete financial and non-financial data, only 258 companies were able to fulfil the criteria set for inclusion in the accruals quality (AQ) model analysis and were therefore usable for further analysis. Table 4.6 provides summary information on the number of companies included in the final study.

Table 4.6: Number of Companies Available for Further Analysis on AQ Model

Selection Criteria	Total
Companies listed as SCC companies from 1999 to 2007	149
Companies never listed as SCC (also known as SNC) from 1999 to 2007	85
Companies listed and de-listed as SCC companies from 1999 to 2007	48
Total	282
Less: companies whose annual reports were not available in the databases from 1999 to 2006*	24
Total number of companies available for further analysis	258

The number of companies examined in the study (see Table 4.7 below) differs from that of the industry characteristics and the status of the companies as SCC, SNC, or DLL (in Table 4.6, above). Information about the names, industry classification, and listing of SCC, SNC, and DLL were extracted from the Bursa Malaysia listing statistics (www.bursamalaysia.com.my) and Securities Commission (SC) press releases on the updated list of Approved Securities by SC's *Shariah* Advisory Council (from year 1999 to year 2007).

Table 4.7: Investigated Companies Included in the Study by Industry & Status

Status	Shariah-Compliant (SCC)	Shariah Non-Compliant (SNC)	Listed & De-Listed (DLL)	TOTAL
Industry				
Consumer Products	17	9	5	31
Construction	13	8	3	24
Industrial Products	53	22	7	82
Plantation	16	4	4	24
Properties	16	6	16	38
Trading & Services	22	20	3	45
Others:				
- Infrastructure &	3	7	4	14
- Technology				
TOTAL	140	76	42	258

Additionally, Table 4.8 below shows the details of all-firm-year observations according to the industry characteristics and the status of the companies as SCC, SNC, or DLL companies.

Table 4.8: Companies Included in the Study, by Industry and Status for All-firm Year Observations

Industry Type	SCC	SNC	DLL	TOTAL
Consumer Products	102	54	30	186
Construction	78	48	18	144
Industrial Products	318	132	42	492
Plantations	96	24	24	144
Properties	96	36	96	228
Trading & Services	132	120	18	270
Others	18	42	24	84
TOTAL	840	456	252	1,548

DLL is defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities not permitted by *Shariah* principles.

Since the analysis required a timed series of observations for each firm, the sample of the study is biased to those companies that survived (Francis et al. 2008; DeAngelo, DeAngelo & Skinner 1994; Dechow et al. 1998). However, according to Tabachnick and Fidell (2007, p. 123), in order to ensure that the results generated could be generalised to other samples, the sample size requirements should be based on the formula of $N > 50 + 8m$ for testing the multiple correlation and $N \geq 104 + m$ for testing individual predictors (where m = number of independent variables).

In the accruals quality model study, there were not more than 5 independent variables for the construct of the accruals quality model; therefore the sample size of 258 companies is quite large and is able to fulfil the requirements for statistical analysis. Furthermore, this study covers around 40% of the average total population of public listed companies on the Malaysian First Board (which totalled 580 companies on average from 1999 to 2007). Nevertheless, as stated by Dechow et al. (1998, p. 145) caution should be exercised in generalising the results from a study like this. The final list of companies selected in identifying the most suitable accruals quality model is provided in Appendix 4A.

4.4 Descriptive Statistics

The descriptive statistics on the variables reported in the following tables are based on the expectations of the four different models i.e. Jones, MJM, DD, and McNichols. As stated in section 4.3.4 above, the analyses were carried out based on status, year, and type of industry. In addition to being consistent with previous studies (Barth, Cram & Nelson, 2001; Dechow & Dichev, 2002), this ensures that, when each variable of interest was examined on alternative specifications or different settings, it could be described and viewed in the context of specific phenomena that occurred. The inferences are more robust and the results, that is, the mean, median, actual range, standard deviation, skewness, and kurtosis of each variable, would be able to explain their central tendencies and the spread of data.

The discussion and analysis begins with the dependent variable, i.e. Total Current Accruals (TCA). As shown in Table 4.9 below, the maximum and minimum average values for TCA are 0.031 and -0.028 respectively. The expected average value for TCA is positive and it can be seen from the results that in almost all situations except for DLL, Plantations, and the year 2001, their average values are positive. This is consistent with previous studies (Dechow & Dichev, 2002; Barth, 2001). Next, the maximum value of all medians is 0.022 and the minimum value is -0.009, while standard deviations also vary from 0.182 to 0.097, respectively. Skewness values are between -2.420 to 2.819. A skewness value of 0 indicates a perfectly normal distribution, thus the values here indicate mixed results. The kurtosis values exceed 3 for all except construction, with the highest kurtosis value belonging to SNC. This means that the distribution of the TCA is not normally distributed; it has a long right tail and is peaked relative to a normal distribution.

Table 4.9: Descriptive Statistics for TCA (Dependent Variable) used in Jones (1991) Model, Modified Jones (1995) Model, Dechow & Dichev (2002) Model & McNichols (2002) Model

TCA: Total Current Accrual

Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.010	0.008	-1.20	1.66	0.133	0.925	29.555
2000	0.031	0.015	-1.20	1.66	0.182	2.819	37.845
2001	-0.028	-0.009	-0.86	0.40	0.157	-1.496	6.599
2002	0.011	0.010	-0.61	0.72	0.109	0.542	12.009
2003	0.013	0.012	-0.58	0.59	0.100	-0.074	9.642
2004	0.026	0.019	-0.71	0.55	0.118	-0.779	9.291
2005	0.008	0.003	-0.35	0.88	0.101	2.533	23.257
Status:							
DLL	-0.013	0.002	-0.86	0.99	0.163	-0.305	12.922
SNC	0.029	0.022	-1.20	1.66	0.149	2.273	44.796
SCC	0.006	0.006	-0.77	0.88	0.110	0.198	11.593
Industry:							
Consumer Products	0.003	0.005	-0.77	0.28	0.097	-2.420	21.213
Construction	0.012	0.012	-0.43	0.40	0.115	-0.313	2.255
Industrial Products	0.018	0.017	-1.20	1.66	0.154	0.879	36.816
Plantations	-0.009	0.002	-0.71	0.72	0.129	-0.796	16
Properties	0.017	0.001	-0.35	1.03	0.143	4.149	26.255
Trading&Services	0.006	0.009	-0.72	0.39	0.113	-0.821	6.911
Others	0.002	0.010	-0.50	0.59	0.132	-0.180	7.148

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

Variable Definition:-

The composition of Total Current Accruals (TCA_t) is as follows: $TCA_t = (\Delta \text{Current Assets} - \Delta \text{Current Liabilities} - \Delta \text{Cash} + \Delta \text{Short Term Debt})$, where the Δ is computed between time t and time $t-1$.

Table 4.10: Descriptive Statistics for ΔRev (Independent Variable) used in Jones (1991) Model, & McNichols (2002) Model

ΔRev : revenues in year t less revenues in year $t-1$ for firm i ;

Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.057	0.033	-4.57	2.22	0.256	-2.763	77.27
2000	0.058	0.032	-0.87	1.18	0.233	0.479	5.57
2001	0.040	0.011	-0.82	1.87	0.223	3.058	22.97
2002	0.030	0.031	-1.15	1.12	0.216	-0.553	10.14
2003	0.074	0.059	-0.75	1.19	0.202	0.757	7.48
2004	0.091	0.048	-1.01	2.22	0.266	2.655	19.48
2005	0.047	0.024	-4.57	1.09	0.359	-8.024	107.83
Status:							
DLL	0.020	0.017	-4.57	0.82	0.311	-12.829	191.53
SNC	0.085	0.054	-1.15	1.87	0.258	1.106	8.69
SCC	0.052	0.033	-1.07	2.22	0.234	1.557	15.22
Industry:							
Consumer Products	0.077	0.065	-0.87	0.92	0.204	-0.210	5.36
Construction	0.043	0.028	-0.54	1.12	0.225	0.671	3.75
Industrial Products	0.081	0.052	-4.57	2.22	0.351	-3.712	67.08
Plantations	0.005	0.014	-0.82	0.72	0.136	-0.788	13.69
Properties	0.015	0.006	-0.29	0.41	0.099	0.640	2.57
Trading&Services	0.055	0.032	-1.07	1.19	0.206	0.574	9.49
Others	0.097	0.068	-1.15	1.34	0.310	0.234	5.63

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

When referring to Table 4.10 above, the average value for Changes in Revenue varies from 0.005 to 0.097. It shows that under all circumstances, average values for changes in revenues are positive. The minimum value of all medians is 0.006 whereas the maximum value is 0.068. Standard deviations also vary from 0.099 to 0.359. The highest values for skewness and kurtosis are 3.058 and 191.53, respectively. The largest range is between -4.57 to 2.22 (FULL SAMPLE and Industrial Products). It can also be observed that these scores are also not normally distributed; they have a long right tail and the distribution of each index is peaked (leptokurtic) relative to normal.

Table 4.11: Descriptive Statistics for $\Delta\text{Rev}-\Delta\text{Rec}$; Independent Variable used in Modified Jones (1995) Model

$\Delta\text{Rev}-\Delta\text{Rec}$: Change in Revenue – Change in Receivables							
Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.075	0.032	-4.65	45.88	1.190	36.893	1422.599
2000	0.046	0.032	-1.11	0.89	0.236	-0.283	5.425
2001	0.031	0.011	-0.82	1.11	0.182	1.357	10.589
2002	0.024	0.027	-1.00	1.03	0.203	-0.393	8.222
2003	0.063	0.044	-0.65	1.19	0.188	0.760	7.900
2004	0.253	0.042	-0.97	45.88	2.862	15.891	254.279
2005	0.033	0.025	-4.65	1.13	0.355	-8.739	118.955
Status:							
DLL	0.015	0.015	-4.65	0.81	0.320	-12.308	181.681
SNC	0.063	0.435	-1.11	1.11	0.235	0.147	5.054
SCC	0.100	0.029	-0.98	45.88	1.596	28.190	809.348
Industry:							
Consumer Products	0.075	0.060	-0.84	0.85	0.195	-0.018	5.195
Construction	0.033	0.026	-0.60	1.03	0.222	0.335	3.041
Industrial Products	0.157	0.041	-4.65	45.88	2.092	21.321	467.34
Plantations	0.005	0.008	-0.82	0.74	0.135	-0.537	15.029
Properties	0.009	0.008	-0.32	0.38	0.089	-0.055	2.71
Trading&Services	0.041	0.032	-0.93	1.19	0.198	0.195	7.295
Others	0.076	0.045	-1.00	1.11	0.272	0.122	4.59

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

When referring to Table 4.11 above, the average value for the difference between Changes in Revenue and Changes in Receivables also varies from 0.005 to 0.253. The medians range from 0.008 to 0.435 and standard deviations also vary from 0.089 to 2.862. For skewness and kurtosis, the highest value is for analysis done on all-firm-year observations; that is, 36.893 and 1422.599 respectively. All-firm-year observations and Industrial Products show the largest range of -4.65 to 45.68. In general, when values of Changes in Receivables are subtracted from values of Changes in Revenues, it can be seen that the results show substantial variations in the skewness and kurtosis values.

Table 4.12: Descriptive Statistics for CFO_{t-1} (Independent Variable) used in Dechow & Dichev (2002) Model & McNichols (2002) Model

CFO_{t-1} :Cash Flow from Operation in year $t-1$

Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.057	0.050	-0.39	0.56	0.084	0.558	3.784
2000	0.068	0.060	-0.26	0.34	0.090	0.294	1.647
2001	0.053	0.043	-0.20	0.40	0.085	0.705	1.794
2002	0.057	0.049	-0.27	0.38	0.084	0.461	2.746
2003	0.056	0.050	-0.16	0.41	0.075	0.477	1.530
2004	0.059	0.052	-0.19	0.56	0.082	1.659	9.312
2005	0.046	0.045	-0.39	0.49	0.088	-0.039	5.851
Status:							
DLL	0.034	0.035	-0.39	0.53	0.073	0.570	13.646
SNC	0.071	0.068	-0.31	0.56	0.096	0.586	3.072
SCC	0.055	0.050	-0.27	0.37	0.079	0.377	1.998
Industry:							
Consumer Products	0.093	0.083	-0.27	0.56	0.104	0.929	3.775
Construction	0.045	0.039	-0.19	0.33	0.084	0.431	0.844
Industrial Products	0.048	0.046	-0.39	0.53	0.088	0.126	3.869
Plantations	0.054	0.050	-0.08	0.36	0.055	1.359	6.513
Properties	0.025	0.022	-0.31	0.32	0.598	0.012	7.604
Trading&Services	0.072	0.076	-0.17	0.34	0.073	0.167	0.418
Others	0.087	0.073	-0.11	0.37	0.010	0.707	0.6

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies and vice versa throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

The descriptive statistics in Table 4.12 above show that the average means for CFO_{t-1} are between 0.093 and 0.025, and these results are consistent with studies done by Dechow & Dichev, 2002. Next, the median values range between 0.022 and 0.083, and standard deviations are between 0.055 and 0.598. For skewness and kurtosis, the highest value is for analysis related to year 2004 and DLL; they are 1.659 and 13.646 respectively. All-firm-years' observations showed the largest range of -0.39 to 0.56.

Table 4.13: Descriptive Statistics for CFO_t (Independent Variable) used in Dechow & Dichev (2002) Model & McNichols (2002) Model

CFO_t :Cash Flow from Operation in year t

Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.059	0.051	-0.49	0.59	0.090	0.495	5.122
2000	0.059	0.045	-0.29	0.45	0.099	0.622	2.455
2001	0.060	0.051	-0.45	0.59	0.093	0.374	7.175
2002	0.060	0.053	-0.25	0.42	0.082	0.418	2.154
2003	0.064	0.056	-0.20	0.56	0.091	1.569	7.460
2004	0.050	0.049	-0.49	0.50	0.091	-0.291	6.809
2005	0.061	0.053	-0.34	0.45	0.086	0.210	3.951
Status:							
DLL	0.036	0.031	-0.27	0.56	0.070	1.441	13.502
SNC	0.075	0.066	-0.49	0.59	0.109	0.401	4.182
SCC	0.057	0.051	-0.45	0.45	0.083	0.135	3.768
Industry:							
Consumer Products	0.095	0.085	-0.45	0.55	0.113	0.225	4.498
Construction	0.038	0.040	-0.34	0.25	0.086	-0.485	2.119
Industrial Products	0.051	0.046	-0.27	0.59	0.094	0.890	4.994
Plantations	0.053	0.050	-0.07	0.20	0.050	0.211	0.003
Properties	0.026	0.022	-0.49	0.27	0.070	-2.015	15.609
Trading&Services	0.078	0.075	-0.14	0.28	0.076	0.261	-0.183
Others	0.099	0.077	-0.10	0.45	0.111	1.141	1.583

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

The descriptive statistics in Table 4.13 above show that the results for CFO_t are almost the same as the results for CFO_{t-1}. The average means for CFO_t are between 0.026 and 0.099 and these results are again consistent with studies done by Dechow & Dichev, 2002. Next, the medians are between 0.022 and 0.085, and standard deviations are between 0.05 and 0.113. Most of the skewness and kurtosis values in this study fall somewhere near to 0 and more than 3, respectively. As a skewness value of 0 and a kurtosis value of 3 indicate a perfectly normal distribution, the distribution of CFO_t is therefore not normally distributed.

Table 4.14: Descriptive Statistics for CFO_{t+1} (Independent Variable) used in Dechow & Dichev (2002) Model & McNichols (2002) Model

CFO_{t+1}: Cash Flow from Operation in year t+1

Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.064	0.056	-1.45	0.57	0.104	-1.795	31.980
2000	0.059	0.051	-1.45	0.46	0.138	-5.078	56.373
2001	0.065	0.055	-0.19	0.44	0.088	0.633	1.697
2002	0.068	0.058	-0.20	0.57	0.099	1.336	5.198
2003	0.054	0.050	-0.69	0.49	0.101	-1.097	12.239
2004	0.068	0.059	-0.34	0.49	0.094	0.285	3.497
2005	0.067	0.063	-0.33	0.48	0.100	0.202	3.873
Status:							
DLL	0.041	0.033	-0.29	0.52	0.079	0.654	7.829
SNC	0.080	0.074	-1.45	0.57	0.135	-3.203	38.838
SCC	0.062	0.055	-0.45	0.49	0.090	0.064	3.695
Industry:							
Consumer Products	0.096	0.093	-0.45	0.57	0.119	0.146	3.871
Construction	0.044	0.049	-0.34	0.30	0.096	-0.531	2.635
Industrial Products	0.053	0.050	-1.45	0.52	0.120	-3.796	50.927
Plantations	0.065	0.05	-0.07	0.30	0.059	0.705	1.306
Properties	0.028	0.021	-0.69	0.28	0.077	-3.286	33.527
Trading&Services	0.085	0.081	-0.19	0.44	0.083	0.411	1.016
Others	0.115	0.090	-0.09	0.49	0.123	1.171	1.387

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies and vice versa throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

Table 4.14 above; shows descriptive statistics for CFO_{t+1}. It can be seen that all the sample means are positive and, again, this result show consistency with earlier studies (Dechow & Dichev, 2002). Companies within the Properties category have the lowest mean, i.e. 0.028, while those in the Others (Technology and Infrastructure) category have the highest mean, i.e. 0.115. The medians range between 0.021 and 0.093, and standard deviations are between 0.059 and 0.138. The lowest skewness and kurtosis values are for the year 2000 (-5.078) and for Trading & Services category (1.016), respectively. The highest skewness and kurtosis values

are for year 2002 (1.336) and year 2002 (56.373), respectively. However, once again, the distributions of the variables are in many instances not distributed normally.

Finally, Table 4.15 below reports the basic statistics for Property, Plant and Equipment (PPE). From the output shown below, the ranges of PPE are from 0.00 to 4.29, with mean values between 0.211 (Construction) and 0.66 (Plantations), and standard deviations from 0.157 (Construction) to 0.366 (year 2000). The results of skewness indicate a positive skew clustered to the left at the low values. On the other hand; the kurtosis values in most situations indicate that the distribution of PPE is rather peaked (clustered in the centre), with long thin tails.

Table 4.15: Descriptive Statistics for PPE (Independent Variable) used in Jones (1991) Model, Modified Jones (1995) Model & McNichols (2002) Model

PPE: Gross Property, Plant and Equipment in year t for firm i ;

Condition	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Year:							
FULL SAMPLE	0.411	0.381	0.00	4.29	0.300	3.044	28.300
2000	0.435	0.408	0.00	4.29	0.366	4.905	47.685
2001	0.407	0.386	0.00	2.16	0.273	1.389	5.956
2002	0.419	0.384	0.00	2.72	0.303	2.370	13.671
2003	0.404	0.382	0.00	1.49	0.260	0.650	0.684
2004	0.411	0.372	0.00	3.53	0.321	3.833	33.752
2005	0.388	0.360	0.00	1.66	0.265	1.118	2.628
Status:							
DLL	0.328	0.278	0.00	3.53	0.334	4.082	33.669
SNC	0.413	0.382	0.00	4.29	0.312	5.007	53.965
SCC	0.435	0.405	0.00	2.72	0.277	1.234	5.728
Industry:							
Consumer Products	0.384	0.384	0.01	0.81	0.159	0.170	0.513
Construction	0.211	0.167	0.01	1.12	0.157	1.965	7.428
Industrial Products	0.445	0.419	0.00	4.29	0.305	4.681	52.971
Plantations	0.660	0.673	0.07	3.53	0.360	3.610	27.591
Properties	0.228	0.199	0.00	1.69	0.206	2.033	10.198
Trading&Services	0.465	0.461	0.02	2.72	0.310	1.826	9.911
Others	0.507	0.463	0.00	1.76	0.286	1.059	3.49

Legend:

DLL defined as companies that were listed but later de-listed as SCC companies and vice versa throughout the period of study; SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*.

In summary, the descriptive statistics show that the variables are not distributed normally. Each of them produces different information in different situations (Barth, Cram & Nelson, 2001). These differences are expected because this study extracted the accounting data manually from the annual reports and not by downloading data from COMPUSTAT or Datastream databases, as has been the case in previous studies. Data extracted manually from the annual reports are unique and therefore this analysis justifies for further investigation. It could provide meaningful results and findings, given that this is the first piece of research of this kind undertaken on comparing accruals quality models on Malaysian data.

4.5 Results from Regression Analysis

This study evaluates the models in three different ways: i) explore each of the independent variables and identify which variable makes a significant contribution to the model, ii) evaluate the models as a whole by looking at several statistical outputs, such as coefficients, t -test, R^2 , and Durbin Watson, and iii) test the models based on the Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) using the out-of-sample observations data.

4.5.1 Evaluating Each of the Independent Variables

This section presents the outcome of the regression analyses, specifically in identifying which of the independent variables in the models contributed to the prediction of the dependent variable. Data obtained from the companies' annual reports from 1999 to 2006, and the firm-specific regressions included a minimum of six observations per firm. An independent variable makes the strongest unique contribution to the dependent variable when it has the largest *beta value* in the standardised coefficients table. Additionally, a variable makes a statistically unique contribution to the equation when its *significance value* is less than 0.05, 0.01, or 0.0001 (Pallant, 2007, p. 159).

Table 4.16 below reports the beta values and significance values of each independent variable resulting from the regression analysis run for all four models. Panel A is determined based on the distribution of the 258 coefficients obtained from the year-specific regressions, and Panel B is based on the distribution of 1548 all-firm-year observation coefficients.

Results from Panel A and Panel B reveal that in the DD and McNichols model, CFO_t is the variable showing the strongest, significantly unique contribution throughout the analyses except for year 2000 where in DD, the strongest contribution was from CFO_{t+1} . As seen in Panel A (except for year 2001) and in Panel B, the significance value for CFO_t is less than 0.0001. Furthermore, the highest beta values belong to the same variable, i.e. CFO_t , (except for year 2000 and 2001). Other variables in the remaining models such as CFO_{t-1} ; CFO_{t+1} ; ΔRev ; and PPE have mixed results throughout the analyses. However $\Delta Rev - \Delta Rec$ is the weakest variable in almost all observations.

Table 4.16: Estimation Results from Regression of Total Current Accruals (TCA) on Cash Flows, Changes in Revenues, Changes in Revenues less Changes in Receivables and Plant and Equipment

Panel A: Year-Specific Regressions (258 firms/year)

Estimation	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE
Year 2000:						
Jones				-0.004		0.392***
MJM					-0.165**	0.368***
DD	0.182**	-0.200**	-0.406***			
McNichols	0.162**	-0.292***	-0.269***	0.060		0.336***
Year 2001:						
Jones				0.075		0.104
MJM					-0.051	0.138*
DD	0.166*	-0.097	0.133			
McNichols	0.191*	-0.161*	0.093	0.097		0.098
Year 2002:						
Jones				0.241***		-0.102
MJM					0.130*	-0.085
DD	0.216***	-0.431***	0.135*			
McNichols	0.205**	-0.403***	0.125	0.201**		-0.079
Year 2003:						
Jones				0.126		0.013
MJM					-0.022	0.053
DD	0.325***	-0.583***	0.217***			
McNichols	0.346***	-0.632***	0.198**	0.214***		0.020
Year 2004:						
Jones				0.321***		-0.211***
MJM					-0.046	-0.192**
DD	0.258***	-0.529***	0.177**			
McNichols	0.249***	-0.496***	0.208**	0.295***		-0.202***
Year 2005:						
Jones				0.140*		-0.042
MJM					0.065	-0.042
DD	0.154*	-0.474***	0.239***			
McNichols	0.124	-0.484***	0.254***	0.172**		-0.015

Panel B: Pooled regressions for all from year 2000 – 2005 (1548 firm-year observations)

Estimation	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE
Jones				0.129***		0.082**
MJM					-0.014	0.095***
DD	0.227***	-0.310***	-0.031			
McNichols	0.212***	-0.347***	-0.044	0.149***		0.133***

*, **, *** Variable makes a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively. All variables are defined in Table 4.1

Table 4.17 below reports the beta values and significance values of each independent variable resulting from the regression analysis run for all four models for Status-Specific Regression. The findings are determined based on the distribution of the 252 coefficients obtained from the DLL status-specific regressions, the 456 coefficients obtained from the SNC status-specific regressions, and the 840 coefficients obtained from the SCC status-specific regressions.

From the table, it can be observed that, again, in the DD and McNichols models, CFO_t is the variable that makes the strongest statistically unique contribution. In Jones and MJM, PPE is the variable that makes the strongest significant contribution in all situations (except in the case of SCC). $\Delta Rev - \Delta Rec$ makes a significant contribution when an analysis was carried out on SNC. CFO_{t-1} is significant for all three situations; and CFO_{t+1} is significant only for SNC and SCC.

Table 4.17: Status-Specific Regressions

Estimation	CFO_{t-1}	CFO_t	CFO_{t+1}	ΔRev	$\Delta Rev - \Delta Rec$	PPE
<i>DLL (252 observations)</i>						
Jones				0.067		-0.147*
MJM					0.023	-0.147*
DD	0.168*	-0.178**	-0.026			
McNichols	0.157*	-0.158*	0.025	0.039		-0.140*
<i>SNC (456 observations)</i>						
Jones				0.009		0.387***
MJM					-0.133**	0.391***
DD	0.297***	-0.334***	-0.260***			
McNichols	0.297***	-0.455***	-0.156***	0.080*		0.415***
<i>SCC (840 observations)</i>						
Jones				0.214***		-0.053
MJM					-0.015	-0.031
DD	0.194***	-0.428***	0.207***			
McNichols	0.204***	-0.433***	0.201***	0.224***		-0.043

*, **, *** Variable makes a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively.

All variables are defined in Table 4.1

The analyses were then continued to the Industry-Specific Regression where the findings are determined based on the distribution of the 186 coefficients obtained from the Consumer Products industry-specific regressions, the 144 coefficients obtained from the Construction industry-specific regressions, the 492 coefficients obtained from the Industrial Products industry-specific regressions, the 144 coefficients obtained from the Plantations industry-specific regressions, the 228 coefficients obtained from the Properties industry-specific regressions, the 270 coefficients obtained from the Trading & Services industry-specific regressions, and the 84 coefficients obtained from the Others category-specific regressions (see Table 4.18 below).

When an analysis was carried out on the companies which belong to the Consumer Products industry, ΔRev is the variable that makes a significant contribution in Jones and McNichols' model. However, in McNichols, CFO_{t-1} also makes a unique and statistically significant contribution to the prediction of TCA. CFO_{t-1} also makes a significant contribution when analyses were carried out on the Construction, Industrial Products, Trading & Services, and Other categories. However, CFO_t as found in DD and McNichols models makes a unique and statistically strong contribution to the prediction of TCA for the categories of Construction, Industrial Products, Properties, Trading & Services, and Others. As for Plantations, in the Jones, MJM and McNichols models PPE seems to be the only variable able to make a significant unique contribution to the prediction of the dependent variable. PPE also makes a significant contribution to the prediction of TCA when the analysis was done on Industrial Products. However, ΔRev - ΔRec in MJM seems to make no significant contribution to the prediction of TCA in any of the analyses.

Table 4.18: Industry-Specific Regressions

Estimation	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE
<i>Consumer Products(186 observations)</i>						
Jones				0.215**		0.025
MJM					0.015	0.038
DD	0.244*	-0.114	0.040			
McNichols	0.315**	-0.183	-0.010	0.244**		0.002
<i>Construction (144 observations)</i>						
Jones				0.221**		-0.053
MJM					-0.035	-0.013
DD	0.320***	-0.669***	0.225**			
McNichols	0.328***	-0.673***	0.188**	0.219**		0.011
<i>Industrial Products(492 observations)</i>						
Jones				0.102*		0.332***
MJM					-0.012	0.345***
DD	0.168***	-0.273***	-0.165***			
McNichols	0.119**	-0.389***	-0.083*	0.108**		0.404***
<i>Plantations (144 observations)</i>						
Jones				0.090		-0.315***
MJM					0.056	-0.312***
DD	0.119	0.040	-0.154			
McNichols	0.128	-0.010	-0.039	0.106		-0.306***
<i>Properties (228 observations)</i>						
Jones				0.182**		0.145*
MJM					-0.008	0.169*
DD	0.070	-0.374***	-0.046			
McNichols	0.109	-0.357***	-0.058	0.196**		0.106
<i>Trading & Services (270 observations)</i>						
Jones				0.022		-0.041
MJM					-0.119	-0.031
DD	0.233**	-0.445***	0.155*			
McNichols	0.234**	-0.447***	0.158*	0.043		-0.014
<i>Others (84 observations)</i>						
Jones				0.196		0.018
MJM					0.064	0.037
DD	0.398**	-0.585***	0.298*			
McNichols	0.399**	-0.606***	0.259	0.215*		0.026

*, **, *** Variable is making a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively.

All variables are defined in Table 4.1

Taking the results above as a whole, we can conclude that the independent variables which made significant contributions to the respective models are as follows:

- i. Jones: PPE and ΔRev
- ii. MJM: PPE
- iii. DD: CFO_t followed by CFO_{t-1}
- iv. McNichols: CFO_t followed by CFO_{t-1}

From the observations, it can be concluded that $\Delta\text{Rev}-\Delta\text{Rec}$ is a weak predictive variable, whereas CFO_t is the strongest predictive variable.

These findings are consistent with Barth, Cram & Nelson (2001), Dechow and Dichev (2002), and McNichols (2002), where the cash flow component (especially cash flow from current cash from operations (CFO_t)) has more substantial power in predicting the earnings. However, the result of a weak predictive variable of $\Delta\text{Rev}-\Delta\text{Rec}$ are contradictory to what has been found by previous researchers, who stated that deducting the amount of receivables from revenues exhibits more power in identifying the quality of earnings reported (Dechow, et. al., 1995; Abdul Rahman & Mohamed Ali, 2006).

4.5.2 Comparative Analysis Based on Estimation Results

In the following analyses, the comparisons were initially made by looking at the estimation results from regression analysis (McNichols, 2002). Estimation results from regression analysis cover only the period from 2000 to 2005 for the following reasons: i) a lead and a lag cash flow term required in the models; and ii) actual data for year 2006 will be used to determine how well each model predicts the out-of-sample observations.

In order to determine the best model to explain the company's true performance, a model with reasonably high Adjusted R^2 values and a Durbin Watson with an acceptable value of around 2 (Gujarati and Porter; 2009, p. 475) was selected as the most significant approach. Additionally, following McNichols, 2002 the analyses were then extended to the F-values and also the beta value of the *unstandardised* coefficients. Next, to assess the statistical significance of the results, table-levelled ANOVA were also observed. The model achieves a statistical significance when the significant value = 0.000; $p < 0.0005$ (Pallant, 2007; p. 158).

For the purpose of this section, the estimation results from regression analysis of TCA on CFOs, ΔRev , $\Delta Rev - \Delta Rec$ and PPE carried out on yearly basis are presented first.

Table 4.19: Estimation Results from Regression of TCA on CFOs, ΔRev, ΔRev- ΔRec and PPE

Panel A: Year-Specific Regressions (258 firms)

Year: 2000 (n=258):

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R ²		F- Value	Durbin- Watson	Residuals	ANOVA -Sig.
								R ²	Adj.				
Jones	-0.054 -3.291**				-0.003 -0.069		0.195 6.793***	0.153	0.147	23.080	1.996	0.167761	0.000***
MJM	-0.043 -2.633**					-0.127 -2.876**	0.184 6.425***	0.180	0.173	27.962	2.008	0.165105	0.000***
DD	0.059 4.482***	0.370 3.083**	-0.368 -3.273**	-0.537 -6.840***				0.233	0.224	25.708	2.048	0.15968	0.000***
McNichols	-0.015 -0.849	0.330 2.925**	-0.539 -4.941***	-0.356 -4.380***	0.047 1.141		0.168 5.895***	0.332	0.319	25.026	1.995	0.14903	0.000***

Year 2001(n=258):

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R ²		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	-0.054 -3.062**				0.053 1.160		0.060 1.609	0.021	0.014	2.774	1.920	0.155515	0.064
MJM	-0.059 -3.330**					-0.044 -0.797	0.079 2.169*	0.019	0.011	2.412	1.921	0.155731	0.092
DD	-0.050 -3.868***	0.307 2.312*	-0.164 -1.361	0.238 1.963				0.047	0.035	4.137	1.870	0.15349	0.007**
McNichols	-0.066 -3.719***	0.352 2.636**	-0.273 -2.109*	0.167 1.330	0.068 1.462		0.056 1.415	.065	0.047	3.517	1.880	0.15198	0.004**

Year 2002 (n=258):

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R ²		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.022 <i>1.982*</i>				0.122 <i>3.945***</i>		-0.037 <i>-1.663</i>	0.062	0.055	8.459	2.047	0.105710	0.000***
MJM	0.022 <i>1.896</i>					0.070 <i>2.091*</i>	-0.031 <i>-1.371</i>	0.022	0.014	2.838	2.058	0.107966	0.060
DD	0.019 <i>2.215*</i>	0.280 <i>3.537***</i>	-0.574 <i>-6.289***</i>	0.149 <i>1.981*</i>				0.152	0.142	15.162	2.121	0.10053	0.000***
McNichols	0.027 <i>2.491*</i>	0.266 <i>3.366**</i>	-0.537 <i>-5.956***</i>	0.138 <i>1.840</i>	0.102 <i>3.492**</i>		-0.028 <i>-1.289</i>	0.194	0.178	12.123	2.057	0.09801	0.000***

Year 2003 (n=258):

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R ²		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.006 <i>0.515</i>				0.062 <i>1.950</i>		0.005 <i>0.199</i>	0.017	0.009	2.189	1.812	0.099135	0.114
MJM	0.005 <i>0.441</i>					-0.012 <i>-0.342</i>	0.020 <i>0.813</i>	0.003	-0.005	0.341	1.823	0.099848	0.712
DD	0.017 <i>2.391*</i>	0.434 <i>5.168***</i>	-0.643 <i>-8.779***</i>	0.215 <i>3.566***</i>				0.242	0.233	27.079	1.879	0.08703	0.000***
McNichols	0.009 <i>0.914</i>	0.462 <i>5.575***</i>	-0.696 <i>-9.586***</i>	0.196 <i>3.264**</i>	0.106 <i>3.807***</i>		0.008 <i>0.342</i>	0.288	0.274	20.384	1.907	0.08437	0.000***

Year 2004 (n=258):

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R ²		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.045 3.975***				0.142 5.508***		-0.078 -3.614***	0.139	0.132	20.499	2.001	0.109887	0.000***
MJM	0.056 4.686***					-0.002 -0.745	-0.071 -3.116**	0.038	0.031	5.053	2.010	0.116113	0.007**
DD	0.024 2.656**	0.374 4.019***	-0.692 -7.558***	0.223 2.647**				0.190	0.180	19.856	2.004	0.10655	0.000***
McNichols	0.038 3.555***	0.362 4.183***	-0.648 -7.604***	0.263 3.254**	0.131 5.600***		-0.075 -3.644***	0.307	0.294	22.376	1.996	0.09852	0.000***

Year 2005 (n=258):

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.012 1.124				0.039 2.261*		-0.016 -0.675	0.021	0.014	2.793	2.210	0.099514	0.063
MJM	0.014 1.235					0.019 1.047	-0.016 -0.679	0.006	-0.002	0.781	2.179	0.100291	0.459
DD	0.017 2.321*	0.177 2.162*	-0.552 -6.673***	0.240 3.555***				0.158	0.148	15.923	2.035	0.09229	0.000***
McNichols	0.019 1.780	0.143 1.742	-0.564 -6.863***	0.254 3.792***	0.048 2.962**		-0.006 -0.259	0.187	0.171	11.602	2.119	0.09070	0.000***

Panel B: Pooled Regressions for All Years from Year 2000 – 2005 (1548 Firm-year Observations)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R ²		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	-0.009 <i>-1.512</i>				0.067 <i>5.092***</i>		0.036 <i>3.230**</i>	0.025	0.024	20.111	2.198	0.131072	0.000***
MJM	-0.007 <i>-1.241</i>					-0.002 <i>-0.562</i>	0.042 <i>3.745***</i>	0.009	0.008	7.189	2.168	0.132153	0.001**
DD	0.019 <i>4.556***</i>	0.359 <i>8.349***</i>	-0.456 <i>-10.921***</i>	-0.040 <i>-1.160</i>				0.093	0.091	52.479	2.108	0.12648	0.000***
McNichols	-0.004 <i>-0.689</i>	0.334 <i>7.934***</i>	-0.511 <i>-12.311***</i>	-0.056 <i>-1.654</i>	0.077 <i>6.224***</i>		0.059 <i>5.422***</i>	0.134	0.134	47.689	2.139	0.12356	0.000***

The t-statistics in Panel A are determined based on the distribution of the 258 coefficients, whereas t-statistics for Panel B are determined based on the distribution of 1,548 coefficients obtained from the companies' annual reports from 1999 to 2006. The firm-specific regressions included a minimum of six observations per firm.

*, **, *** Variable makes a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively.

All variables are defined in Table 4.1

Table 4.20: Ranking of Models According to R, F-Values, and ANOVA Significant Values

Model	R (00)	R (01)	R (02)	R (03)	R (04)	R (05)	R (ALL)	FV (00)	FV (01)	FV (02)	FV (03)	FV (04)	FV (05)	FV (ALL)	ASV (00)	ASV (01)	ASV (02)	ASV (03)	ASV (04)	ASV (05)	ASV (ALL)
McNichols	0.332	0.065	0.194	0.288	0.307	0.187	0.134	25.026	3.517	12.123	20.384	22.376	11.602	47.689	0.000	0.004	0.000	0.000	0.000	0.000	0.000
DD	0.233	0.047	0.152	0.242	0.19	0.158	0.093	25.708	4.137	15.162	27.079	19.856	15.923	52.479	0.000	0.007	0.000	0.000	0.000	0.000	0.000
MJM	0.18	0.019	0.022	0.003	0.038	0.006	0.009	27.962	2.412	2.838	0.341	5.053	0.781	7.189	0.000	0.092	0.060	0.712	0.007	0.459	0.001
Jones	0.153	0.021	0.062	0.017	0.139	0.021	0.025	23.08	2.774	8.459	2.189	20.499	2.793	20.111	0.000	0.064	0.000	0.114	0.000	0.063	0.000

Legend:

R: R Square values for 2000 to 2005 and all firm-year observations

FV: F-Values for 2000 to 2005 and all firm-year observations

ASV: Significant Values from ANOVA table for 2000 to 2005 and all firm-year observations

Table 4.19 compares the four commonly applied models identified earlier in terms of their R^2 values, Adjusted R^2 values (Adj. R^2), Durbin Watson (DW), F-Values (FV) and Significance values from ANOVA tables (ANOVA Sig.) resulting from regression analysis on a yearly basis.

When referring to the above table, throughout the years, it can be seen that the values R^2 and Adjusted R^2 for Jones and MJM are small. As for DD and McNichols, the values are within the acceptable limits and almost consistent with previous studies (McNichols, 2002; Dechow & Dichev, 2002). However, R^2 values for McNichols are higher. McNichols (2002) presents evidence that when the two variables, i.e. ΔRev and PPE, are added to the DD model, the adjusted R^2 increases. In most of the cases above we can see that these study findings are consistent with McNichols. Looking at just the Adjusted R^2 , it is evident that the three CFOs contribute to much more variation than ΔRev and PPE. The DWs for the four models are about the same. The significance values from ANOVA tables show that DD and McNichols achieved statistical significance (Sig. = 0.000, $p < 0.0005$) for all years except year 2001.

The focus was then turned to the aptness of the overall models by ranking the models according to the highest R^2 values, highest F-Values, and lowest ANOVA Significance Values for each of the 4 models under the 6 different conditions, i.e. year 2000, 2001, 2002, 2003, 2004, 2005, and All-year firm observations. The results of the test indicated that the McNichols model ranks first, followed by DD in second place, with MJM third and Jones last (see Table 4.20 above).

Referring to *unstandardised* coefficients' values, previous researchers found that PPE has a negative relationship with TCA but ΔRev has a significant positive relationship with TCA. This is because PPE is related to income-decreasing accrual (depreciation expenses) and ΔRev can cause income-increasing changes in working capital accounts (e.g. accounts receivable) and income-decreasing changes in others (increase in Account Payables) (McNichols, 2002 and Jones, 1991, p. 213). Additionally, previous studies also reveal that CFO_t is found to have a negative

relationship with TCA (Dechow & Dichev, 2002; McNichols, 2002), but CFO_{t-1} and CFO_{t+1} have been confirmed to be positively related with TCA (Barth et al., 2001; Dechow, 1994; Dechow et al. 1998; Dechow & Dichev, 2002; Finger, 1994).

Results from the above also reveal that in most years, the relationship of CFO_{t-1} ; CFO_t ; CFO_{t+1} ; ΔRev , and PPE with TCA are as predicted and consistent with previous studies.

To conclude, for the yearly based analysis, overall it was found that Jones and MJM were unsatisfactory. McNichols' model performed better than DD when considering the F-Test and overall performance.

Analysis was then carried out based on the status-specific and industry-specific regressions. The following section presents findings for the status-specific regressions.

Table 4.21: Estimation Results from Regression of TCA on CFOs, Δ Rev, Δ Rev- Δ Rec and PPE

Status-Specific Regressions

Panel A: DLL (n = 252)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	Δ Rev	Δ Rev- Δ Rec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj				
Jones	0.010 <i>0.715</i>				0.035 <i>1.065</i>		-0.072 <i>-2.344*</i>	0.026	0.018	3.362	2.206	0.161331	0.036*
MJM	0.011 <i>0.760</i>					0.012 <i>0.369</i>	-0.072 <i>-2.351*</i>	0.022	0.015	2.851	2.204	0.161654	0.060
DD	-0.008 <i>-0.674</i>	0.377 <i>2.517*</i>	-0.413 <i>-2.659**</i>	-0.055 <i>-0.395</i>				0.043	0.031	3.706	2.202	0.15995	0.012*
McNichols	0.009 <i>0.585</i>	0.351 <i>2.255*</i>	-0.368 <i>-2.349*</i>	0.053 <i>0.360</i>	0.021 <i>0.597</i>		-0.068 <i>-2.061*</i>	0.061	0.042	3.192	2.184	0.15844	0.008**

Panel B: SNC (n = 456)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	Δ Rev	Δ Rev- Δ Rec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj				
Jones	-0.047 <i>-4.414***</i>				0.005 <i>0.193</i>		0.185 <i>8.796***</i>	0.151	0.147	40.266	2.123	0.137670	0.000***
MJM	-0.043 <i>-3.970***</i>					-0.084 <i>-3.099**</i>	0.187 <i>9.129***</i>	0.169	0.165	45.900	2.104	0.136239	0.000***
DD	0.054 <i>6.410***</i>	0.464 <i>6.125***</i>	-0.458 <i>-6.846***</i>	-0.288 <i>-5.544***</i>				0.189	0.184	35.198	2.138	0.13452	0.000***
McNichols	-0.027 <i>-2.537*</i>	0.437 <i>6.466***</i>	-0.624 <i>-10.173***</i>	-0.173 <i>-3.574***</i>	0.046 <i>2.054*</i>		0.199 <i>10.280***</i>	0.363	0.356	51.312	2.010	0.11923	0.000***

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.010 1.488				0.100 6.306***		-0.021 -1.563	0.046	0.044	20.298	2.186	0.107107	0.000***
MJM	0.012 1.666					-0.001 -0.443	-0.012 -0.896	0.001	-0.001	0.493	2.140	0.109609	0.611
DD	0.008 1.724	0.269 5.429***	-0.568 -10.927***	0.252 5.595***				0.131	0.127	41.826	2.065	0.10227	0.000***
McNichols	0.010 1.580	0.283 5.837***	-0.575 -11.314***	0.244 5.473***	0.105 7.076***		-0.017 -1.288	0.180	0.175	36.672	2.121	0.09930	0.000***

The t-statistics in Panel A are determined based on distribution of the 252 coefficients obtained from the DLL status-specific regressions. T-statistics in Panel B are determined based on the distribution of 456 coefficients obtained from SNC status-specific regressions, and t-statistics in Panel C determined based on distribution of 840 coefficients obtained from SCC status-specific regressions. Data obtained from the companies' annual report from 1999 to 2006 and the firm-specific regressions included a minimum of six observations per firm.

*, **, *** Variable makes a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively.

All variables are defined in Table 4.1

When referring to the above table, it can be seen that the R^2 and Adjusted R^2 values for Jones and MJM are again too small for each group. For DD and McNichols, the values are within the range of values considered acceptable in Social Science studies. Looking at the Adjusted R^2 on its own, it appears that the three CFOs again contribute to much more variation than ΔRev and PPE. Results from the above also reveal that the relationship of CFO_{t-1} , CFO_t , and ΔRev to TCA are as predicted and consistent with previous studies. However, the relationship of PPE is only consistent with previous studies for the analysis performed on DLL and SCC, and CFO is only consistent with previous studies for the analysis performed on SNC.

The DWs are acceptable because the values are around 2. Significance values for the four models are about the same. However, when looking at MJM, it can be seen that the model has consistently higher significance values compared to the other three models.

Next, the overall aptness of the models was investigated by ranking the models according to the highest R^2 values, highest F-Values, and lowest ANOVA significance values for the 4 models under three different conditions. The results of the test indicated that the McNichols model performed best, followed by DD in second place, Jones in third place, and MJM ranked last (see Table 4.22).

Table 4.22: Ranking of Models According to R, F-Values, and ANOVA Significance Values

Model	R^2 (DLL)	R^2 (SNC)	R^2 (SCC)	F-Value (DLL)	F-Value (SNC)	F-Value (SCC)	A Sig. V (DLL)	A Sig. V (SNC)	A Sig. V (SCC)
McNichols	0.061	0.363	0.180	3.192	51.312	36.672	0.008	0.000	0.000
DD	0.043	0.189	0.131	3.706	35.198	41.826	0.012	0.000	0.000
Jones	0.026	0.151	0.046	3.362	40.266	20.298	0.036	0.000	0.000
MJM	0.022	0.169	0.001	2.851	45.900	0.493	0.060	0.000	0.611

Therefore, for the status-based analysis, overall it can be concluded that again Jones and MJM are unsatisfactory. However, compared to the DD model, the McNichols model performed better when taking the overall results into account.

The analyses were then continued to the Industry-Specific Regression where the findings are determined based on distribution of the 186 coefficients obtained from the consumer products industry-specific regressions; 144 coefficients obtained from construction industry-specific regressions; 492 coefficients obtained from Industrial Products industry-specific regressions; 144 coefficients obtained from Plantations industry-specific regressions; 228 coefficients obtained from Properties industry-specific regressions; 270 coefficients obtained from Trading & Services industry-specific regressions; and 84 coefficients obtained from Others industry-specific regressions.

Table 4.23: Estimation Results from Regression of TCA on CFOs, Δ Rev, Δ Rev- Δ Rec and PPE

Industry-Specific Regressions

Panel A: Consumer Products (n = 186)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	Δ Rev	Δ Rev- Δ Rec	PPE	R Squared		F-Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	-0.011 -0.592				0.102 2.972**		0.015 0.345	0.047	0.037	4.555	2.051	0.094558	0.012*
MJM	-0.007 -0.347					0.007 0.197	0.023 0.510	0.002	-0.009	0.152	1.918	0.096802	0.859
DD	-0.012 -1.274	0.228 2.237*	-0.097 -1.020	0.033 0.376				0.042	0.026	2.674	1.903	0.09482	0.049*
McNichols	-0.018 -1.007	0.294 2.892**	-0.156 -1.638	-0.008 -0.090	0.116 3.285**		0.001 0.021	0.096	0.071	3.841	2.044	0.09209	0.002**

Panel B: Construction (n = 144)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	Δ Rev	Δ Rev- Δ Rec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.015 0.963				0.113 2.655**		-0.039 -0.634	0.048	0.034	3.546	2.110	0.112027	0.031*
MJM	0.014 0.896					-0.018 -0.407	-0.010 -0.153	0.001	-0.013	0.104	2.018	0.114725	0.901
DD	0.014 1.571	0.437 4.704***	-0.889 -9.427***	0.267 3.243**				0.407	0.395	32.081	1.496	0.08838	0.000***
McNichols	0.009 0.764	0.448 4.934***	-0.893 -9.671***	0.224 2.753**	0.112 3.400**		0.008 0.156	0.455	0.435	23.011	1.621	0.08478	0.000***

Panel C: Industrial Products (n = 492)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	-0.060 -5.239***				0.045 0.017*		0.167 7.787***	0.129	0.126	36.302	2.132	0.143551	0.000***
MJM	-0.059 -5.130***					0.000 -0.282	0.174 8.119***	0.119	0.116	33.109	2.096	0.144374	0.000***
DD	0.038 4.622***	0.294 3.842***	-0.448 -6.162***	-0.212 -3.788***				0.120	0.114	22.153	2.009	0.14433	0.000***
McNichols	-0.049 -4.315***	0.208 2.976**	-0.640 -9.377***	-0.106 -2.055*	0.047 2.762**		0.204 9.852***	0.286	0.279	38.907	2.018	0.13000	0.000***

Panel D: Plantations (n = 144)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.066 3.049**				0.085 1.124		-0.113 -3.956***	0.106	0.093	8.329	2.457	0.122300	0.000***
MJM	0.065 3.016**					0.054 0.703	-0.112 -3.911***	0.101	0.088	7.902	2.447	0.122632	0.001**
DD	-0.007 -0.396	0.280 1.359	0.104 0.417	-0.340 -1.623				0.028	0.008	1.368	2.513	0.12747	0.255
McNichols	0.054 2.225*	0.302 1.510	-0.027 -0.106	-0.086 -0.400	0.100 1.232		-0.110 -3.567***	0.121	0.089	3.794	2.449	0.12126	0.003**

Panel E: Properties (n = 228)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	-0.010 -0.701				0.262 2.795**		0.100 2.218*	0.061	0.053	7.315	2.044	0.138220	0.001**
MJM	-0.009 -0.677					-0.012 -0.114	0.117 2.566*	0.028	0.020	3.300	1.950	0.140596	0.039*
DD	0.035 3.410**	0.168 1.130	-0.758 -5.862***	-0.086 -0.733				0.147	0.136	12.913	2.061	0.13171	0.000***
McNichols	0.011 0.823	0.259 1.739	-0.724 -5.732***	-0.107 -0.935	0.283 3.142**		0.073 1.734	0.201	0.183	11.150	2.076	0.12753	0.000***

Panel F: Trading & Services (n = 270)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R Squared		F- Value	Durbin Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	0.013 1.016				0.012 0.355		-0.015 -0.672	0.005	-0.005	0.271	2.357	0.113286	0.763
MJM	0.014 1.157					-0.068 -1.962	-0.011 -0.503	0.016	0.008	2.135	2.396	0.112504	0.120
DD	0.015 1.405	0.360 3.371**	-0.668 -6.142***	0.213 2.230*				0.129	0.119	13.132	2.323	0.10583	0.000***
McNichols	0.016 1.226	0.361 3.367**	-0.672 -6.082***	0.216 2.169*	0.024 0.742		-0.005 -0.219	0.131	0.114	7.955	2.289	0.10572	0.000***

Panel G: Others (n = 84)

Estimation	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	ΔRev- ΔRec	PPE	R Squared		F- Value	Durbin- Watson	Residuals	ANOVA- Sig.
								R ²	Adj.				
Jones	-0.011 -0.366				0.084 1.785		0.008 0.166	0.040	0.016	1.683	2.470	0.129282	0.192
MJM	-0.009 -0.317					0.031 0.574	0.017 0.333	0.006	-0.018	0.252	2.429	0.131533	0.778
DD	-0.014 -0.679	0.549 3.188**	-0.696 -3.806***	0.320 2.247*				0.174	0.143	5.631	2.347	0.11989	0.001**
McNichols	-0.022 -0.782	0.551 3.232**	-0.721 -3.984***	0.278 1.911	0.091 2.097*		0.012 0.236	0.220	0.170	4.393	2.388	0.11655	0.001**

*, **, *** Variable makes a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively.

All variables are defined in Table 4.1

Table 4.24: Ranking of Models According to R, F-Values, and ANOVA Significance Values

	R (CP)	R (Cn)	R (IP)	R (Pln)	R (PRP)	R (TS)	R (OT)	FV (CP)	FV (Cn)	FV (IP)	FV (Pln)	FV (PRP)	FV (TS)	FV (OT)
Mc Nichols	0.096	0.455	0.286	0.121	0.201	0.131	0.220	3.841	23.011	38.907	3.794	11.150	7.955	4.393
Jones	0.047	0.048	0.129	0.106	0.061	0.005	0.040	4.555	3.546	36.302	8.329	7.315	0.271	1.683
DD	0.042	0.407	0.120	0.028	0.147	0.129	0.174	2.674	32.081	22.153	1.368	12.913	13.132	5.631
MJM	0.002	0.001	0.119	0.101	0.028	0.016	0.006	0.152	0.104	33.109	7.902	3.300	2.135	0.252

	ASV (CP)	ASV (Cn)	ASV (IP)	ASV (Pln)	ASV (PRP)	ASV (TS)	ASV (OT)
Mc Nichols	0.002	0.000	0.000	0.003	0.000	0.000	0.001
Jones	0.012	0.031	0.000	0.000	0.001	0.763	0.192
DD	0.049	0.000	0.000	0.255	0.000	0.000	0.001
MJM	0.859	0.901	0.000	0.001	0.039	0.120	0.778

Legend:

- R : R Square values according to Industry-Specific Regression
- FV : F-Values according to Industry-Specific Regression
- ASV : Significant Values from ANOVA table according to Industry-Specific Regression
- CP : Consumer Products
- Cn : Construction
- IP : Industrial Products
- Pln : Plantations
- PRP : Properties
- TS : Trading & Services
- O : Others

With reference to Table 4.23 above, it can be seen that the R^2 and Adjusted R^2 values for Jones and MJM are too small for each group, except for the Plantations group. For Consumer Products, all four models performed poorly. Except for Plantations, the results of R^2 and Adjusted R^2 for DD are almost consistent with the previous analysis. As for McNichols, except for Consumer Products, the R^2 and Adjusted R^2 values are similar to the previous analyses; they fall within acceptable values and are consistent with previous studies. Three CFOs again contribute to much more variation than just ΔRev and PPE in the models.

The DWs for Jones are around 2 only for Plantations and Properties, while the DWs for MJM are acceptable only for Construction and Properties. As for DD and McNichols, the acceptable DWs are for Consumer Products, Industrial Products, and Properties.

DD and McNichols achieved statistical significance (Sig. = 0.000; $p < 0.0005$) for the analyses carried out on Construction, Industrial Products, Properties, Trading & Services and Others. Jones and MJM were significant only for the analyses done on Industrial Products and Plantations.

As in the previous analyses, a second focus was the overall aptness of the models (refer to Table 4.24). Once the models are ranked according to the highest R^2 values, highest F-Values and lowest significant values from ANOVA tables, it can be seen that the results from the status-based analyses indicate that McNichols ranks first followed, respectively, by Jones, DD and MJM.

Therefore, for the status-based analysis, it could be concluded that the McNichols model performs better when the overall results are taken into account.

4.6 Results from Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) of Out-of-Sample Observations

Finally, the models were further analysed based on Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) (Gujarati & Porter, 2009; Marshall et al., 2009) using the out-of-sample observations data. The model yielding the smallest MAE and MSE would therefore be the most appropriate approach (model) for Malaysian data.

The following table reports the results of the MSE and MAE analysis using the out-of-sample data to evaluate the models.

Table 4.25: Mean Absolute Errors (MAE) and Mean Square Errors (MSE) of Out-of-sample Forecasts

Panel A: Analysis Conducted on All-Firms Year Observations

	n	Jones		MJM		DD		McNichols	
		MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE
2006	258	0.0694	0.0136	0.0717	0.0147	0.0654	0.0134	0.0638	0.0122

Panel B: Analysis Conducted on the Status of Companies

	n	Jones		MJM		DD		McNichols	
		MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE
DLL	42	0.0628	0.0137	0.0641	0.0146	0.0665	0.0152	0.0628	0.0149
SNC	76	0.0889	0.0204	0.0920	0.0211	0.0822	0.0164	0.0877	0.0200
SCC	140	0.0673	0.0128	0.0674	0.0139	0.0544	0.0101	0.0532	0.0092

Panel C: Analysis Conducted Based on the Type of Industry

	n	Jones		MJM		DD		McNichols	
		MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE
CP	31	0.0523	0.0050	0.0504	0.0051	0.0437	0.0037	0.0467	0.0036
Const	24	0.0703	0.0092	0.0638	0.0081	0.0660	0.0085	0.0740	0.0094
IP	82	0.0746	0.0144	0.0780	0.0157	0.0711	0.0162	0.0629	0.0106
Plant	24	0.0510	0.0043	0.0516	0.0045	0.0539	0.0050	0.0458	0.0035
Props	38	0.0952	0.0219	0.0995	0.0282	0.1001	0.0271	0.0908	0.0206
T&S	45	0.0781	0.0146	0.0793	0.0148	0.0850	0.0208	0.0842	0.0206
Others	14	0.0706	0.0082	0.0708	0.0083	0.0626	0.0084	0.0580	0.0083

Estimated Model covers data from 2000 to 2005

Data for out-of-sample observations: Year 2006

Lowest MSE & MAE in bold.

The difference between the actual and the predicted values is defined as the forecast error (Gujarati & Porter, 2009, p. 8; Marshall et al., 2009, p. 31) as follows:

$\varepsilon_t = (y_t - \hat{y}_t)$ where y_t is the observable data. The accuracy of the forecast \hat{y}_t generated from each of the differences can be assessed using the following statistical

measures: $\mathbf{MAE} = \frac{\sum_{t=1}^n |\varepsilon_t|}{n}$ and $\mathbf{MSE} = \frac{\sum_{t=1}^n \varepsilon_t^2}{n}$ where MAE stands for the Mean

Absolute Forecasting Error and MSE stands for Mean Square Forecasting Errors.

After ranking the results for MAE and MSE, it was observed that McNichols is the best model because it yields the smallest MAE and MSE in the majority of the analyses. Therefore, based on the above analyses, the results suggest the McNichols model is more appropriate in all situations.

4.7 Additional Robustness Test

For the additional robustness test, this study applied the approach described below to re-confirm the above result. A model is the best model once it is able to predict the performance of a company. The 4 models were tested on all companies that were delisted from the Main Board of Bursa Malaysia in year 2007. Models with the highest standard deviation of residuals for those companies are ranked accordingly. The highest in the ranking will be considered to be the best model to identify the earnings management activities of Malaysian companies.

Table 4.26 below reveals that the highest R^2 is achieved with the McNichols model, and it is also the model that reaches statistical significance at the 0.05 level. The R^2 values for the other three models are quite small and values in the ANOVA table are higher than 0.05. The empirical correlations of all variables in all models are in agreement with previous studies and the predictions of the models. The standard deviation of the residuals for McNichols is only 0.141187, which is the lowest value compared to the values achieved by the other three models. Nevertheless, the value is higher than the average value of the standard deviation of the residuals for the overall analysis carried out earlier (in which values ranged between 0.11 and 0.13).

Since the sample is limited to 20 companies (i.e. 120 firm-years observations), the results of the standard deviation of the residuals from this analysis could not be considered as the only indicator to detect earnings management activities of the delisted companies. The entire issued and paid-up share capital of companies such as Golden Hope Plantations Berhad, Mentakab Rubber Company (Malaysia) Berhad, Kumpulan Guthrie Berhad, Guthrie Ropel Berhad, Highland & Lowlands Berhad, Sime Darby Berhad, Sime Engineering Berhad and SIME UEP was removed from the Official List of Bursa Malaysia Securities with effect from 30 November 2007 pursuant to Paragraph 8.15 (5) and 8.16 (6) of the Listing Requirements of Bursa Malaysia Securities. The main reason for these companies being delisted from the Main Board in year 2007, however, was not only due to their poor financial performance.

Table 4.26: Estimation Results from Regression of Total Current Accruals (TCA) on Cash Flows, Changes in Revenues, Changes in Revenues less Changes in Receivables and Plant and Equipment

Analysis conducted on 120 all-firm year observations

Panel A: Model Fit Test

<u>Model</u>	<u>R²</u>	<u>Adj. R²</u>	<u>DW</u>	<u>F-Value</u>	<u>ANOVA Sig.</u>	<u>Std Dev. Residual</u>
Jones	0.079	0.063	2.273	4.989	0.008	0.145621
MJM	0.077	0.062	2.265	4.906	0.009	0.145731
DD	0.049	0.025	2.338	2.008	0.117	0.147913
McNichols	0.134	0.096	2.268	3.523	0.005	0.141187

Panel B: Beta value of the unstandardised coefficients

<u>Estimation</u>	<u>Intercept</u>	<u>CFO_{t-1}</u>	<u>CFO_t</u>	<u>CFO_{t+1}</u>	<u>ΔRev</u>	<u>ΔRev-ΔRec</u>	<u>PPE</u>
Jones	0.048				0.057		-0.108
	2.230*				0.855		-3.073**
MJM	0.049					-0.002	-0.109
	2.279*					-0.748	-3.086**
DD	0.007	0.205	-0.522	0.076			
	0.389	1.053	-2.306*	0.389			
McNichols	0.049	0.294	-0.574	0.320	0.090		-0.120
	2.284*	1.553	-2.560*	1.547	1.300		-2.972**

The t-statistics in Panel B are determined based on distribution of the 120 coefficients, obtained from the companies' annual reports from 1999 to 2006. The firm-specific regressions included a minimum of six observations per firm.

*, **, *** Variable is making a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively. All variables are defined in Table 4.1

4.8 Summary

This chapter described the method chosen and the context within which the research was carried out. The seven main phases applied during the identification of the most accurate earnings quality model have been explained. Additionally, this chapter has also described the source, sample and selection of the data, and has also presented the processes involved in the data collection and data analysis stages. Potential issues related to multivariate analysis and modelling methods, and how to overcome them, have been discussed at some length and these are also applicable for the EQ and ISCR study discussed later in Chapters 5, 7 and 8.

In order to identify which model is the most accurate one to measure the level of earnings reported by Malaysian companies, four models were compared in this chapter, namely the Jones Model (1991), Modified Jones Model (1995), Dechow & Dichev Model (2002), and McNichols (modified Jones & DD) Model (2002).

The analyses of the models started with the discussion of the signs of weights and magnitudes on all earnings attributes. These steps were consistent with those undertaken by previous researchers on comparing or evaluating accruals quality models (Barth, Cram & Nelson, 2001; Dechow & Dichev, 2002; McNichols, 2002). Based on the descriptive analyses, the results revealed that all the variables were found not to be normally distributed. Nevertheless, there were no transformations done on the data in order to maintain the originality and the uniqueness of the data. Furthermore, it was also believed that the untransformed data are easier to interpret and understand, as well as more meaningful than the transformed data (Tabachnick & Fidell, 2007; p. 86). Additionally, the large samples of data were able to overcome the problem of unstable coefficients and large standard errors (Echambadi, Campbell & Agarwal; 2006; Field, 2009).

Based on the regression analyses, the empirical findings were found to be consistent with Dechow and Dichev (2002) and McNichols (2002). The current operating cash flows (CFO_t) was the strongest attribute and significantly positively associated with

total accruals (TAC), as compared to the other attributes, when the analysis were carried out on the McNichols and DD (2002) models. Nevertheless, PPE has also been able to make a significant contribution to the Jones 1991 and MJM 1995 models. The ΔRev - ΔRec however, was found to be insignificant in the majority of the analyses. Next, when the four models were evaluated based on R^2 values, Adjusted R^2 values, Durbin-Watson (DW) values, and significance values in ANOVA tables, there were significant differences between Jones and MJM, DD, and McNichols when using Malaysian data. When the models were ranked according to an F-test based on residuals, R^2 and significant values from ANOVA tables, it was found that the McNichols Model (modified Jones (1991) and DD (2002) models) (2002) performed better. As stated earlier, when property, plant and equipment (PPE), and changes in revenue (ΔRev) were added to the DD (2002) Model, it able to enhance the predictive ability and subsequently contributed to the higher significance of the whole model. Finally, the models were analysed using out-of-sample observations data and were further analysed based on Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE); the McNichols Model (2002) yielded the smallest MAE and MSE. The findings revealed therefore support the earlier results.

The empirical findings from this study conclude that the McNichols Model is the model that is able to capture the key features of accruals accounting (Dechow & Dichev, 2002); hence could be applied to measure the level of earnings quality of Malaysian firms even though the standards and regulation applied to the Malaysian firms are different from the U.S. firms.

This study, however, limits the conclusions based on output revealed from the regression analysis and MAE and MSE tests. Nevertheless, the conclusions are robust and drawn from various settings, namely the year-specific regressions, status-specific regressions, and industry-specific regression. The next chapter will apply the McNichols model in order to answer Specific Research Question (SRQ) 2, SRQ 3 and SRQ4 regarding the level of earnings management activities in Malaysia.

Appendix 4A: Companies Selected For Study on Accruals Quality Model

No.	Company Name	Status	Industry
1	A & M Realty Bhd	SCC	Properties
2	ACP Industries Bhd	SCC	Industrial Product
3	Advance Synergy Bhd	NSC	Industrial Product
4	Ahmad Zaki Resources Bhd	NSC	Construction
5	AIC Corporation Bhd	NSC	Technology
6	Ajinomoto (M) Bhd	SCC	Consumer Product
7	Ajiya Bhd	NSC	Industrial Product
8	AKN Technology Bhd	NSC	Technology
9	Aluminium Company Of Malaysia Bhd	SCC	Industrial Product
10	Amalgamated Containers Bhd	SCC	Industrial Product
11	Amalgamated Industrial Steel Bhd	SCC	Industrial Product
12	Amway (M) Holdings Bhd	SCC	Trading & Services
13	Ancom Bhd	SCC	Industrial Product
14	Ann Joo Resources Bhd	SCC	Industrial Product
15	Apollo Food Holdings Bhd	SCC	Consumer Product
16	Asas Dunia Bhd	SCC	Properties
17	Asia File Corporation Bhd	NSC	Consumer Product
18	Asia Pacific Land Bhd	NSC	Properties
19	Asiatic Development Bhd	SCC	Plantation
20	Astral Asia Bhd	NSC	Plantation
21	Ayer Hitam Planting Syndicate Bhd	DLL	Properties
22	Batu Kawan Bhd	SCC	Plantation
23	BCB Bhd	SCC	Properties
24	Berjaya Land Bhd	NSC	Trading & Services
25	Berjaya Sports Toto Bhd	NSC	Trading & Services
26	Bina Darulaman Bhd	SCC	Properties
27	Bina Puri Holdings Bhd	SCC	Construction
28	Bintai Kinden Corporation Bhd	SCC	Trading & Services
29	Boustead Holdings Bhd	NSC	Plantation
30	Box-Pak (Malaysia) Bhd	DLL	Industrial Product
31	Brem Holdings Bhd	SCC	Construction
32	British American Tobacco (M) Bhd	NSC	Consumer Product
33	C.I. Holdings Bhd	SCC	Consumer Product
34	Carlsberg Brewery Malaysia Bhd	NSC	Consumer Product
35	CB Industrial Product Holding Bhd	NSC	Industrial Product
36	Cement Industries of Malaysia Bhd	SCC	Industrial Product

SCC: Shariah Compliant Companies; NSC: Shariah Non-compliant Companies;

DLL: Companies Listed & De-Listed as Shariah Compliant Companies

No.	Company Name	Status	Industry
37	Chemical Company of Malaysia Bhd	SCC	Industrial Product
38	Chin Teck Plantations Bhd	SCC	Plantation
39	Chin Well Holdings Bhd	SCC	Industrial Product
40	Choo Bee Metal Industries Bhd	SCC	Industrial Product
41	Computer Systems Advisers (M) Bhd	NSC	Technology
42	Country Heights Holdings Bhd	DLL	Properties
43	Crescendo Corporation Bhd	SCC	Properties
44	Crimson Land Bhd	NSC	Properties
45	Cycle & Carriage Bintang Bhd	SCC	Industrial Product
46	Daibochi Plastic & Packaging Inds Bhd	NSC	Industrial Product
47	Delloyd Ventures Bhd	SCC	Industrial Product
48	Dialog Group Bhd	NSC	Trading & Services
49	Digi.Com Bhd	SCC	Infrastructure
50	Dijaya Corporation Bhd	SCC	Properties
51	DKLS Industries Bhd	NSC	Construction
52	DRB-Hicom Bhd	NSC	Industrial Product
53	Dutch Lady Milk Industries Bhd	SCC	Consumer Product
54	Eastern & Oriental Bhd	DLL	Properties
55	Eastern Pacific Industrial Corp. Bhd	SCC	Trading & Services
56	Ekovest Bhd	NSC	Construction
57	Ekran Bhd	DLL	Properties
58	Eksons Corporation Bhd	NSC	Industrial Product
59	Eng Teknologi Holdings Bhd	NSC	Technology
60	EP Manufacturing Bhd	NSC	Industrial Product
61	Esso Malaysia Bhd	SCC	Industrial Product
62	Eupe Corporation Bhd	DLL	Properties
63	Evermaster Group Bhd	NSC	Industrial Product
64	FACB Industries Incorporated Bhd	SCC	Industrial Product
65	Far East Holdings Bhd	SCC	Plantation
66	FCW Holdings Bhd	SCC	Industrial Product
67	Fiamma Holdings Bhd	SCC	Trading & Services
68	Fima Corporation Bhd	SCC	Properties
69	Focal Aims Holdings Bhd	NSC	Properties
70	Formosa Prosonic Industries Bhd	NSC	Construction
71	Fraser & Neave Holdings Bhd	DLL	Consumer Product
72	Gamuda Bhd	DLL	Construction
73	Genting Bhd	NSC	Trading & Services

*SCC: Shariah Compliant Companies; NSC: Shariah Non-compliant Companies;
DLL: Companies Listed & De-Listed as Shariah Compliant Companies*

No.	Company Name	Status	Industry
74	George Kent (M) Bhd	SCC	Trading & Services
75	Glenealy Plantations (M) Bhd	SCC	Plantation
76	Globetronics Technology Bhd	NSC	Technology
77	Goh Ban Huat Bhd	SCC	Industrial Product
78	Gold Bridge Engineering & Cons. Bhd	NSC	Properties
79	Golden Hope Plantations Bhd	SCC	Plantation
80	Golden Pharos Bhd	SCC	Consumer Product
81	Golden Plus Holdings Bhd	DLL	Properties
82	Gopeng Bhd	SCC	Industrial Product
83	Guinness Anchor Bhd	NSC	Consumer Product
84	Guthrie Ropel Bhd	SCC	Plantation
85	Highlands & Lowlands Bhd	DLL	Plantation
86	Hirota Holdings Bhd	NSC	Industrial Product
87	Ho Hup Construction Company Bhd	SCC	Construction
88	Hock Seng Lee Bhd	SCC	Construction
89	Hong Leong Industries Bhd	DLL	Consumer Product
90	Hume Industries (M) Bhd	SCC	Industrial Product
91	I-Bhd	SCC	Consumer Product
92	IJM Corporation Bhd	SCC	Construction
93	Industrial Concrete Products Bhd	SCC	Industrial Product
94	Integrated Logistics Bhd	SCC	Trading & Services
95	INTI Universal Holdings Bhd	NSC	Trading & Services
96	IOI Corporation Bhd	NSC	Plantation
97	IOI Properties Bhd	SCC	Properties
98	Ipmuda Bhd	SCC	Trading & Services
99	Island & Peninsular Bhd	SCC	Properties
100	Jaya Tiasa Holdings Bhd	SCC	Industrial Product
101	John Master Industries Bhd	SCC	Consumer Product
102	Johor Land Bhd	DLL	Properties
103	JT International Bhd	NSC	Construction
104	Keck Seng (M) Bhd	SCC	Industrial Product
105	Keladi Maju Bhd	DLL	Properties
106	Ken Holdings Bhd	NSC	Construction
107	KFC Holdings (M) Bhd	SCC	Trading & Services
108	Khee San Bhd	SCC	Consumer Product
109	Kia Lim Bhd	SCC	Industrial Product
110	Kian Joo Can Factory Bhd	DLL	Industrial Product

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DLL: Companies Listed & De-Listed as Shariah Compliant Companies*

No.	Company Name	Status	Industry
111	Kim Hin Industry Bhd	SCC	Industrial Product
112	Kossan Rubber Industries Bhd	NSC	Industrial Product
113	KPJ Healthcare Bhd	SCC	Trading & Services
114	Kramat Tin Dredging Bhd	DLL	Industrial Product
115	Kulim (M) Bhd	SCC	Plantation
116	Kumpulan Guthrie Bhd	SCC	Plantation
117	Kurnia Setia Bhd	SCC	Plantation
118	Kwantas Corporation Bhd	SCC	Plantation
119	Ladang Perbadanan - Fima Bhd	DLL	Plantation
120	Land & General Bhd	SCC	Properties
121	Latitude Tree Holdings Bhd	NSC	Consumer Product
122	LB Aluminium Bhd	SCC	Industrial Product
123	Leader Steel Holdings Bhd	NSC	Industrial Product
124	Leader Universal Holdings Bhd	SCC	Industrial Product
125	Lien Hoe Corporation Bhd	DLL	Properties
126	Linear Corporation Bhd	NSC	Industrial Product
127	Lingkar Trans Kota Holdings Bhd	DLL	Infrastructure
128	Lingui Development Bhd	SCC	Industrial Product
129	Lityan Holdings Bhd	DLL	Technology
130	LKT Industrial Bhd	NSC	Technology
131	Magnum Corporation Bhd	NSC	Trading & Services
132	Mah Sing Group Bhd	NSC	Properties
133	Malakoff Bhd	SCC	Trading & Services
134	Malayan Flour Mills Bhd	SCC	Consumer Product
135	Malayan United Industries Bhd	NSC	Trading & Services
136	Malaysia Smelting Corporation Bhd	SCC	Industrial Product
137	Malaysian Airline System Bhd	NSC	Trading & Services
138	Malaysian Merchant Marine Bhd	NSC	Trading & Services
139	Malaysian Oxygen Bhd	SCC	Industrial Product
140	Malaysian Pacific Industries Bhd	SCC	Technology
141	Mamee-Double Decker (M) Bhd	SCC	Consumer Product
142	MBM Resources Bhd	DLL	Trading & Services
143	Mechmar Corporation (M) Bhd	DLL	Trading & Services
144	Mega First Corporation Bhd	SCC	Trading & Services
145	Mentakab Rubber Co (M) Bhd	DLL	Plantation
146	Mentiga Corporation Bhd	SCC	Industrial Product
147	Merge Energy Bhd	SCC	Construction

*SCC: Shariah Compliant Companies; NSC: Shariah Non-compliant Companies;
DLL: Companies Listed & De-Listed as Shariah Compliant Companies*

No.	Company Name	Status	Industry
148	Metrod (M) Bhd	SCC	Industrial Product
149	Metroplex Bhd	NSC	Trading & Services
150	Mieco Chipboard Bhd	SCC	Industrial Product
151	Minho (M) Bhd	SCC	Industrial Product
152	Mintye Industries Bhd	SCC	Consumer Product
153	Mitrajaya Holdings Bhd	SCC	Construction
154	Mol.Com Bhd	NSC	Industrial Product
155	Muda Holdings Bhd	SCC	Industrial Product
156	Muhibbah Engineering (M) Bhd	SCC	Construction
157	Multi Vest Resources Bhd	NSC	Plantation
158	Multi-Purpose Holdings Bhd	NSC	Trading & Services
159	MWE Holdings Bhd	DLL	Consumer Product
160	Nam Fatt Corporation Bhd	SCC	Construction
161	Nanyang Press Holdings Bhd	SCC	Trading & Services
162	Nationwide Express Courier Services Bhd	NSC	Trading & Services
163	Negara Properties (M) Bhd	SCC	Properties
164	Negri Sembilan Oil Palms Bhd	DLL	Plantation
165	Nestle (M) Bhd	SCC	Consumer Product
166	New Hoong Fatt Holdings Bhd	NSC	Consumer Product
167	Nylex (M) Bhd	SCC	Industrial Product
168	OCB Bhd	SCC	Trading & Services
169	Oriental Holdings Bhd	DLL	Consumer Product
170	Oriental Interest Bhd	SCC	Properties
171	Pasdec Holdings Bhd	DLL	Properties
172	Padiberas Nasional Bhd	SCC	Trading & Services
173	Padini Holdings Bhd	NSC	Consumer Product
174	Pan Malaysia Corporation Bhd	DLL	Industrial Product
175	Paramount Corporation Bhd	NSC	Properties
176	Park May Bhd	SCC	Trading & Services
177	Patimas Computers Bhd	NSC	Technology
178	PCCS Group Bhd	SCC	Construction
179	PDZ Holdings Bhd	SCC	Trading & Services
180	Perak Corporation Bhd	NSC	Trading & Services
181	Petaling Tin Bhd	DLL	Properties
182	Petronas Dagangan Bhd	SCC	Trading & Services
183	Petronas Gas Bhd	SCC	Industrial Product
184	Pilecon Engineering Bhd	SCC	Construction

*SCC: Shariah Compliant Companies; NSC: Shariah Non-compliant Companies;
DLL: Companies Listed & De-Listed as Shariah Compliant Companies*

No.	Company Name	Status	Industry
185	Pintaras Jaya Bhd	DLL	Construction
186	PK Resources Bhd	DLL	Properties
187	PLB Engineering Bhd	NSC	Construction
188	PNE PCB Bhd	SCC	Industrial Product
189	PPB Group Bhd	NSC	Consumer Product
190	PPB Oil Palms Bhd	SCC	Plantation
191	Press Metal Bhd	NSC	Industrial Product
192	Prestar Resources Bhd	NSC	Industrial Product
193	P'sahaan Sadur Timah M'sia(Perstima) Bhd	SCC	Industrial Product
194	PSC Industries Bhd	SCC	Industrial Product
195	Puncak Niaga Holdings Bhd	DLL	Infrastructure
196	Putera Capital Bhd	SCC	Consumer Product
197	Ramatex Bhd	SCC	Industrial Product
198	Resorts World Bhd	NSC	Trading & Services
199	Road Builder (M) Holdings Bhd	SCC	Construction
200	Rohas-Euco Industries Bhd	NSC	Industrial Product
201	Rubberex Corporation (M) Bhd	NSC	Industrial Product
202	Safeguards Corporation Bhd	NSC	Trading & Services
203	Sarawak Oil Palms Bhd	SCC	Plantation
204	Scientex Incorporated Bhd	SCC	Industrial Product
205	Seal Incorporated Bhd	SCC	Industrial Product
206	Selangor Dredging Bhd	DLL	Properties
207	Shell Refining Co (F.O.M.) Bhd	SCC	Industrial Product
208	SHL Consolidated Bhd	SCC	Properties
209	Sime UEP Properties Bhd	DLL	Properties
210	Sin Heng Chan (Malaya) Bhd	SCC	Consumer Product
211	Sindora Bhd	DLL	Industrial Product
212	Sinora Industries Bhd	SCC	Industrial Product
213	Sitt Tatt Bhd	SCC	Industrial Product
214	Southern Acids (M) Bhd	SCC	Industrial Product
215	Southern Steel Bhd	SCC	Industrial Product
216	SP Setia Bhd	SCC	Properties
217	SRII Bhd	NSC	Trading & Services
218	Star Publications (M) Bhd	SCC	Trading & Services
219	Subur Tiasa Holdings Bhd	SCC	Industrial Product
220	Sunrise Bhd	SCC	Properties
221	Suremax Group Bhd	NSC	Construction

*SCC: Shariah Compliant Companies; NSC: Shariah Non-compliant Companies;
DLL: Companies Listed & De-Listed as Shariah Compliant Companies*

No.	Company Name	Status	Industry
222	Talam Corporation Bhd	DLL	Properties
223	Taliworks Corporation Bhd	NSC	Trading & Services
224	Tan Chong Motor Holdings Bhd	DLL	Consumer Product
225	Tanco Holdings Bhd	DLL	Properties
226	Tanjong Public Limited Company	NSC	Trading & Services
227	Tasek Corporation Bhd	SCC	Industrial Product
228	TDM Bhd	SCC	Plantation
229	Tekala Corporation Bhd	SCC	Industrial Product
230	Telekom Malaysia Bhd	SCC	Trading & Services
231	Tenaga Nasional Bhd	SCC	Trading & Services
232	Texchem Resources Bhd	NSC	Trading & Services
233	TH Group Bhd	SCC	Plantation
234	Thong Guan Industries Bhd	NSC	Industrial Product
235	Tradewinds (M) Bhd	SCC	Trading & Services
236	Transmile Group Bhd	DLL	Trading & Services
237	Triumphal Associates Bhd	NSC	Trading & Services
238	TSH Resources Bhd	NSC	Industrial Product
239	UAC Bhd	SCC	Industrial Product
240	UMW Holdings Bhd	SCC	Consumer Product
241	Unisem (M) Bhd	SCC	Technology
242	United Malayan Land Bhd	SCC	Properties
243	United Plantations Bhd	SCC	Plantation
244	UPA Corporation Bhd	NSC	Consumer Product
245	Utusan Melayu (M) Bhd	SCC	Trading & Services
246	V.S Industry Bhd	SCC	Industrial Product
247	WCT Engineering Bhd	SCC	Construction
248	Wembley Industries Holdings Bhd	DLL	Industrial Product
249	Wijaya Baru Global Bhd	DLL	Industrial Product
250	WTK Holdings Bhd	SCC	Industrial Product
251	Ye Chiu Metal Smelting Bhd	NSC	Industrial Product
252	Yee Lee Corporation Bhd	SCC	Consumer Product
253	Yeo Hiap Seng (M) Bhd	SCC	Consumer Product
254	YLI Holdings Bhd	NSC	Industrial Product
255	YTL Cement Bhd	SCC	Industrial Product
256	YTL Corporation Bhd	DLL	Construction
257	YTL Power International Bhd	DLL	Infrastructure
258	Yung Kong Galvanising Industries Bhd	NSC	Industrial Product

*SCC: Shariah Compliant Companies; NSC: Shariah Non-compliant Companies;
DLL: Companies Listed & De-Listed as Shariah-Compliant Companies*

CHAPTER 5

EARNINGS QUALITY OF MALAYSIAN COMPANIES

5.1 Introduction

Previously, in Chapter 3, a detailed overview of the Malaysian Islamic Capital Market during the period of study (1999 to 2007) was provided. Levels of reported earnings in *Shariah*-compliant companies (SCCs) are expected to be different from others because: i) the companies have to undergo a thorough assessment processes performed by the *Shariah* Advisory Council (SAC) before being listed as SCC; and ii) there are additional rules and regulations which they are required to comply with. Subsequently, the main aim of this chapter is to determine whether Malaysian public listed companies, specifically companies listed as ‘*Shariah*-compliant’ (SCC), undertake fewer earnings management activities and therefore are of higher quality than other companies. Furthermore, this study will examine various additional characteristics as other potential indicators of the earnings quality of companies. In response to the objectives of the study, this chapter provides answers for the following specific research questions:

SRQ2: What is the level of earnings quality (EQ) in Malaysian public listed companies?

SRQ3: To what extent do regulatory factors influence the level of earnings quality of SCC companies?

SRQ4: What other factors are statistically significant in explaining variations in the quality of reported earnings?

Based on the analyses previously carried out in Chapter 4, this chapter will apply McNichol’s accruals quality model as a proxy for EQ because the model has been identified as the most accurate accruals quality model to measure the level of

earnings reported by Malaysian companies. **Section 5.2** explains the development of hypotheses that attempt to establish a link between EQ and variables influencing EQ. **Section 5.3** briefly explains the sample selection and data collection. **Section 5.4 and 5.5** present the measurement of dependent variables and independent variables, respectively. **Section 5.6** discusses the analyses performed on each hypothesis. **Section 5.7** provides descriptive statistics and presents the findings on the univariate analyses. **Section 5.8** shows findings related to the multivariate analysis. **Section 5.9** discusses on the univariate and multivariate results and, finally, **Section 5.10** concludes the chapter.

5.2 Hypotheses Development for Variables Influencing EQ

The hypotheses are developed from prior theoretical literature and from findings of previous studies, as has been discussed in Chapter 2 above; they are further highlighted in this section. In order to develop hypotheses on the association between selected factors and EQ, the attributes are classified according to four different categories. The first attribute to be examined is additional regulation (ADR); the second category examined relates to the culture attributes (CULT); the third category consists of institutional investors, top ten shareholders, and family members on the Board, which are categorised under ownership-structure variables (OSV); and finally, the type of industry, auditor size, and foreign activities are categorised under the fourth category, namely market-related variables (MRV).

5.2.1 Hypothesis for Testing the Additional Regulatory Factor (ADR)

Studies by Ali and Hwang (2000), Hung (2001) and Leuz et al. (2003) stated that investors' protection is higher in countries with strong legal enforcement. It is expected that in a normal situation, earnings management activities could be circumvented if strong legal enforcement is in place. Prior empirical research on earnings quality and regulations evidenced that there is a relationship between the level of earnings quality and regulation. Studies by Ball and Shivakumar (2005) and Burgstahler et al. (2006) found that, on average, earnings for companies that are not

subject to greater legal obligations or stringent rules (in their study, this characteristic was proxied by private companies) are of lower quality. Burgstahler et al. (2006) further argued that a strong system of securities regulation is more influential in reducing the earnings management activities than the country's general system of legal enforcement.

The inclusion in this study of three different groups of companies, i.e., *Shariah*-compliant Companies (SCC), *Shariah* Non-compliant Companies (SNC) and Listed and De-Listed Companies (DLL) provides the opportunity to examine whether there are any differences in earnings quality between the three groups due to additional regulatory differences. Hence, the hypothesis in the null form is:

H₁: *Ceteris paribus*, there is no association between additional regulation (ADR) and the level of EQ.

5.2.2 Hypotheses for Testing the Cultural Factors (CULT)

Prior studies on the effects of culture and earnings management evidence significant results between the two variables. Doupink (2008) examined the influence of national culture on earnings management across a broad cross-section of countries and found that the cultural dimensions of uncertainty avoidance and individualism are significantly related to earnings management, even after taking account of investor protection and other legal institutional factors (p. 317). Han et al. (2010) revealed similar findings; however, they highlighted that the association of earnings management and culture varies in relation to investor protection strength. Guan et al. (2005) examined the effect of cultural environment on earnings manipulation in five Asia-Pacific countries, namely Australia, Hong Kong, Japan, Malaysia, and Singapore. Their findings revealed that cultural variables were significant in explaining the choices of accounting accruals. In accordance with the environmental determinism theory proposed by Cooke and Wallace (1990), environmental factors such as culture could influence managers in performing their day-to-day tasks.

Malaysia's business environment is expected to be different from that of other countries. Malaysia is a multicultural country. A company in Malaysia employs managers from different backgrounds, ethnic groups, and religions. Malays, Chinese, or Indian managers are expected to perform their work according to their own tradition, values, and beliefs as well as their own culture (Alhabshi, 1994, quoted in Haniffa and Cooke, 2002). Abdul Rahman and Mohamed Ali (2006), in their study of 97 firms listed on the Main Board of Bursa Malaysia over the period 2000-2003, hypothesized a negative association between cultural characteristics and earnings management. They explained that, consistent with Islamic business ethics that encourage Malay directors to be more transparent and honest, activities related to accounting manipulation can be reduced. Their results, however, provided insufficient evidence to claim that culture had any effect on earnings management.

Following Haniffa and Cooke (2002) and Abdul Rahman and Mohamed Ali (2006), the following null hypotheses are applied to test the relationship between culture and the earnings quality of Malaysian companies:

H₂: *Ceteris paribus*, there is no association between the presence of a Malay chairperson and the level of EQ.

H₃: *Ceteris paribus*, there is no association between the presence of a Malay managing director and the level of EQ.

H₄: *Ceteris paribus*, there is no association between the proportion of Malay directors on the Board and the level of EQ.

H₅: *Ceteris paribus*, there is no association between proportion of Malay shareholdings and the level of EQ.

H₆: *Ceteris paribus*, there is no association between Accounting and/or Business educational qualifications of Board members and the level of EQ.

H₇: *Ceteris paribus*, there is no association between Islamic educational qualifications of Board members and the level of EQ.

Chapter 2 has discussed in detail the two major ethnic groups in Malaysia, i.e. Malays and Chinese. Following Haniffa and Cooke (2002), this study will use Malay ethnicity as a proxy for culture.

5.2.3 Hypotheses for Testing the Ownership-structure Factors (OSV)

Top ten shareholders, institutional investors, and family members on the Board are independent variables that have been used to test the effects of ownership influence on the level of earnings quality.

5.2.3.1 Institutional Investors

Institutional investors are considered to be the most influential investors because of their high level of ownership in a company (Bushee, 1998; Chung et al., 2002; Collins et al., 2003). They are in a position to monitor all management activities, scrutinize the financial report, and also influence management decisions. Empirical studies done by Koh (2007) revealed that long-term institutional investors can, through their monitoring activities, mitigate aggressive earnings management activities among firms that manage earnings to achieve the earnings benchmarks. This finding is consistent with Agency Theory, which states that managers, with the knowledge that their actions are closely monitored, will behave more responsibly. A higher concentration of institutional investors in a company could be a good indication of fewer earnings management activities, thereby attracting more people to invest in that company and thus leading to higher stock prices (Jiambalvo et al., 2002).

However, results from previous studies on this variable tend to be mixed. Some studies support the view, but others do not. Studies done by Bushee (1998), Chung et al. (2002), and Dechow et al. (1996) support the view that earnings management

could be reduced by having large institutional investors in a firm. Bushee (1998) examined the relationship between institutional investors and R&D spending and found that institutional investors were able to reduce negative impacts. Chung et al. (2002) found that the presence of large institutional investors could reduce the opportunity for managers to manipulate accounting figures to achieve their own objectives. Looking from the other side of the relationship, Dechow et al. (1996) found that firms manipulating earnings had fewer institutional investors.

Graves and Waddock (1990) and Porter (1992), however, argued that due to constraints such as short-term oriented investors, and investors with limited knowledge of company operations, institutional investors are unlikely to be able to control and monitor all the managers' day-to-day activities. As a consequence, they suggested, the existence of a higher number of institutional investors would not necessarily mitigate earnings management activities. This view is supported by Beasley (1996), Piotroski and Roulstone (2004), and Peasnell et al. (2000 and 2005), who were unable to find a significant relationship between institutional investors and earnings management.

As there is little empirical evidence indicating a clear relationship between earnings quality and percentage ownership by institutional investors, specifically in Malaysia, this study will investigate the following null hypothesis:

H₃: *Ceteris paribus*, there is no association between a high proportion of shares held by institutional investors and the level of EQ.

5.2.3.2 Top Ten Shareholders

A higher percentage of shares owned by the top ten shareholders could also be expected to affect the quality of reported earnings for the same reason advanced for institutional investors: they are capable of monitoring management activities, as predicted by Agency Theory (Craswell & Taylor, 1992; Haniffa & Cooke, 2002; Hossain et al., 1994; Leftwich et al., 1981). Fan and Wong (2002) stated that an

analysis of ownership structures should focus on the largest ultimate ownership, that is, shareholders who have the determining voting rights of the company and who are not controlled by anybody else (p. 410). They found that in case of East Asian firms, a high ownership concentration and a large separation of ownership and control weaken the informativeness of reported earnings to outside investors. As the prior studies have different results, the relationship between the two variables needs to be empirically examined. The null hypothesis is as follows:

H₉: *Ceteris paribus*, there is no association between a high proportion of shares held by top-ten shareholders and the level of EQ.

5.2.3.3 Family Members on the Board

In addition to the above, Anderson and Reeb (2004), Ali et al. (2007), and Jaggi et al. (2009) document that the presence of family members on the Board may result in fewer earnings management activities due to the ability of the family members to directly control the managers' activities and influence the decision making process. In Malaysia, spouses, parents, children, brothers, sisters and the spouses of such children, and their brothers and sisters are considered as family members, as stated in Section 122A of the Malaysian Companies Act, 1965 (Mohd Ghazali & Weetman, 2006; Arshad, 2009).

In line with previous findings, in this study it is hypothesized that the relationship between family members on the Board and earnings quality (in the null form) is as below:

H₁₀: *Ceteris paribus*, there is no association between a high proportion of family members on the Board and the level of EQ.

5.2.4 Hypotheses for Testing the Market-related Factors (MRV)

In this study, type of industry (INDS), type of auditor (AUD) and foreign activities (FRNX) are independent variables used to test the effects of market-related factors (MRV) and level of earnings quality (EQ).

5.2.4.1 Type of Industry

The quality of reported earnings may differ according to industry type. Different industries have different requirements and divergent responses to economic and political changes. As Palepu et al. (2004) suggested, EQ and a firm's environment are associated. Dechow and Dichev (2002) also argued that EQ is systematically related to industry characteristics. Furthermore, Ball and Shivakumar (2005) stated in their paper that, given the same accounting standards, the quality of financial reporting differs due to different economic functions. Hence, the hypothesis in the null form is:

H₁₁: *Ceteris paribus*, there is no association between industry type and the level of EQ.

5.2.4.2 Auditor Size

Several studies have examined the possible association between the size of auditing firm (auditor size) and earnings quality and suggested that there is a connection between them. Previous research (DeAngelo, 1981; Francis & Yu, 2009; Jordan, et al., 2010) present evidence that audit quality is correlated to the size of the auditing firm. Teoh and Wong (1993, p. 346) defined a high quality auditor as one who produces a more credible earnings report, and their study reported a positive association between size of auditing firm and earnings quality. In addition, Chen et al. (2005) reported a positive association between auditor size and earnings quality for Taiwanese companies. Studies carried out by Balsam et al. (2003), Krishnan (2003), and Kwon et al. (2007) emphasized the association between earnings quality

and auditor industry specialization, and revealed that clients of specialist auditors (Big 6) had higher earnings quality than those who were audited by non-specialists. Becker et al. (1998), and Reynolds and Francis (2001) also stated that large audit firms should be able to detect earnings management activities because they have the expertise, and their auditors are required to carry out their duty in a professional manner to maintain their good reputation. Francis, Maydew and Sparks (1999, pp.18-19) argued that companies with high-accruals hire audit firms with an international reputation in order to cover their aggressive earnings management activities. They agreed, however, that the existence of the Big 6 auditors could usually circumvent the need for management to be excessively involved. Recent empirical evidence by Jordan et al., (2010) reported that, as compared to companies audited by non-Big 4 firms, there was no indication of excessive earnings management activities in companies audited by the Big 4. Accordingly, these findings yield the following null hypothesis:

H₁₂: *Ceteris paribus*, there is no association between size of auditing firm and the level of EQ.

5.2.4.3 Foreign Activities

A statement made by Bao and Bao (2004) mentioned that the focus of accountants in less developed countries such as Malaysia leans more towards uniformity and statutory control or detailed legal requirements. This focus is contradictory to the practices of accountants in Anglo countries (U.K, U.S, and Canada) and Nordic countries (such as Finland, Netherlands, and Sweden) whose focus is on consistency and comparability, as well as flexibility. Since companies in Malaysia are also involved in foreign activities, and in order to be consistent with ISCR study, the relationship between the involvement of companies in foreign activities and level of EQ would also be an interesting issue to examine. Company involvement in foreign activities could be seen as a factor that could influence the management to report earnings with high quality in order to achieve the world standards and expectations.

Based on the above arguments and to test the relationship between foreign activities and earnings quality (ISCR) of Malaysian companies, the hypothesis in the null form is:

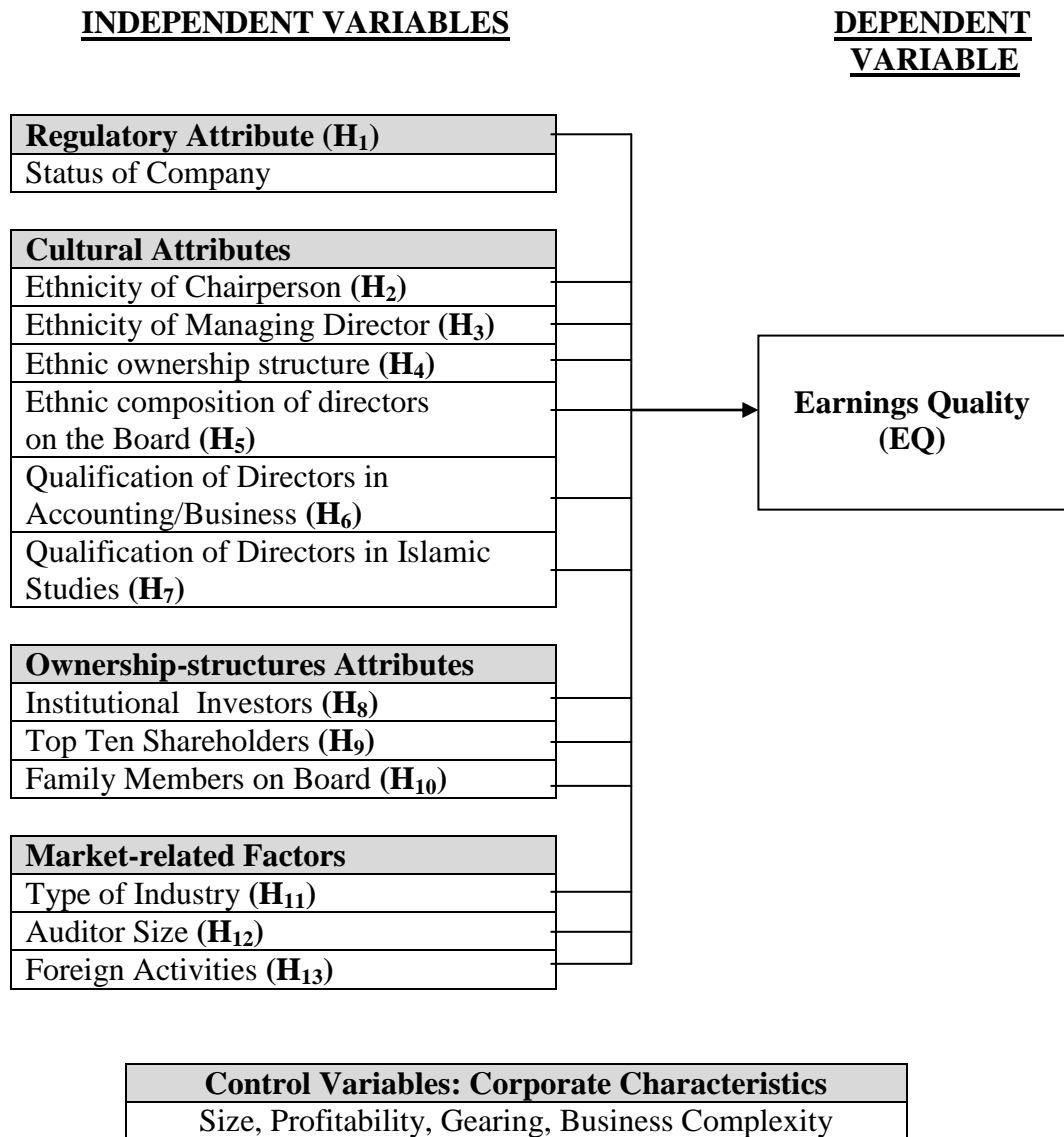
H₁₃: *Ceteris paribus*, there is no association between company involvement in foreign activities and the level of EQ.

5.2.5 Control Variable: Corporate Characteristics

Prior empirical studies provide evidence that corporate characteristics such as size (Abdul Rahman and Mohamed Ali, 2006; Haron and Atan, 2010), profitability (Abdul Rahman and Mohamed, Ali 2006), and gearing (Becker at al., 1998; Watts and Zimmerman, 1986) have significant relationships with earnings quality. To be consistent with ISCR study (see Chapter 7), this study includes business complexity as another control variables. Since these variables are not the focus of this section, they will be measured and tested as control variables to prevent any possible effects on the results.

The connection between identified independent variables and dependent variables as hypothesized above (H₁ to H₁₃) are summarised in Figure 5.1 below.

Figure 5.1: Theoretical Framework of Earnings Quality Study



5.3 Sample Selection and Data Sources

The study described in this chapter uses the sample of companies and selection criteria outlined in **Section 4.3.4**. All independent variables examined were obtained from the 2007 annual reports. Since the computation of the accruals quality (as proxy for EQ) requires lagged and future data, data for the dependent variable (that is, earnings quality analysis) are extracted from the annual reports for the financial periods from 1999 to 2008. Table 5.1 below presents the number of companies included in this study.

Table 5.1: Number of Companies Available for Further Analysis

Selection Criteria	Total
Companies listed as SCC companies from 1999 to 2007	149
Companies never listed as SCC (also known as SNC) from 1999 to 2007	85
Companies listed and de-listed as SCC companies from 1999 to 2007	48
Total	282
Less: companies whose annual reports were not available in the databases from 1999 to 2008	58
Total number of companies available for further analysis	224

In addition, the companies examined in the study are distinguished in respect of industry characteristics as well as by the status of the companies as SCC, SNC or DLL (see Table 5.2 below).

Table 5.2: Companies Included in the Study by Industry and Status

Status	Shariah-compliant (SCC)	Shariah Non-Compliant (SNC)	Listed & De-Listed (DLL)	TOTAL
Industry				
Consumer Products	18	8	5	31
Construction	11	7	3	21
Industrial Products	47	20	5	72
Plantation	12	4	2	18
Properties	15	4	12	31
Trading & Services	20	16	3	39
Others	3	6	3	12
TOTAL	126	65	33	224

Reasons for the lack of availability of company annual reports in the Bursa Malaysia and Malaysian Securities Commission (SC) databases include the following:

- i. Companies were de-listed from the main board in 2007 or 2008;
- ii. Companies were involved in mergers or takeovers;
- iii. Companies changed their financial year end, and results for their annual report were only available in 2009.

Nevertheless, the numbers of companies included in the analysis still represent more than thirty percent (i.e. 40%) of the average total population. The final list of companies selected in this study is provided in Appendix 5A.

5.4 Measurement of Dependent Variables

Earnings quality refers to the ability of reported earnings to convey the true current economic performance of a firm and is therefore able to help stakeholders predict the capacity of a company to continue to exist and achieve the organisation's objectives in subsequent years (Hicks, 1946; Hodge, 2003; Penman, 2003; Schipper and Vincent, 2003; Teets, 2002). On the other hand, *earnings management* is defined as a process of manipulating accounting numbers by the management with the intention of obtaining some private gain (Schipper, 1989). Since accounting systems provide for accruals, whereby certain accounting figures can be shifted over time, companies are able to increase (decrease) earnings during the year where there are some incentives, and decrease (increase) earnings thereafter (Dechow and Dichev, 2002; Teoh et al., 1998b). Further discussions of EQ and EM can be found above in Section 2.2.

Several alternative models of accruals have been employed in previous studies to detect earnings management as well to measure the quality of earnings reported. Chapter 4 reviewed the use of different models, specifically: a) Jones (1991) Model; b) Modified Jones (1995) Model; c) Dechow and Dichev (2002) Model, and d) McNichols (2002) Model (modified Jones, 1991 and Dechow & Dichev, 2002

models); and the McNichols (2002) Model was identified as the most significant accrual quality model for Malaysian data.

Therefore, in this study, the dependent variable is measured using the McNichols (2002) Model, as set out below, as a proxy for earnings quality. It forms the basis for the accrual quality measure, $AQ_j = \sigma(\hat{v}_{j,t})$. AQ_j is the standard deviation of firm j 's residuals, and therefore a larger standard deviation indicates poorer accruals quality.

$$TCA_{j,t} = b_0 + b_1CFO_{t-1} + b_2CFO_t + b_3CFO_{t+1} + b_4\Delta Sales_t + b_5 PPE_t + \varepsilon_t \quad (1)$$

5.5 Measurement of Independent Variables

The independent variables chosen are categorised into four groups: 1) additional regulatory (ADR) variables; 2) cultural (CULT) variables; 3) ownership-structure (OSV) variables, and 4) market-related (MRV) variables. Control variables identified in this study are based on corporate characteristics, i.e. size, profitability, gearing, and business complexity. Table 5.3 provides a summary of the selected independent variables and their source of information.

Table 5.3: Summary of the Selected Independent Variables for Testing the Hypotheses

Independent Variables	Operationalisation	Source of Data
<i>ADR = Status (H₁)</i>	0 = DLL 1 = SNC 2 = SCC	Annual Report, & ICM Reports
<i>Cultural Attributes (CULT)</i>		Annual Report
Ethnicity of Chairperson (<i>H₂</i>)	<i>Dichotomous: Malay/Non-Malay 0 = No; 1 = Yes</i>	
Ethnicity of Managing Director (<i>H₃</i>)	Proportion of Malay Managing Directors exceeds other ethnic groups. <i>Dichotomous: Yes/No 0 = No; 1 = Yes</i>	
Ethnic ownership structure (<i>H₄</i>)	Proportion of Malay Shareholdings exceeds other ethnic groups. <i>Dichotomous: Yes/No 0 = No; 1 = Yes</i>	
Ethnic composition of directors on the Board (<i>H₅</i>)	Proportion of Malay Directors on the Board exceeds other ethnic groups. <i>Dichotomous: Yes/No 0 = No; 1 = Yes</i>	
Qualification of Directors in Accounting or/and Business (<i>H₆</i>)	<i>Dichotomous: Yes/No 0 = No; 1 = Yes</i>	
Qualification of Directors in Islamic Studies (<i>H₇</i>)	<i>Dichotomous: Yes/No 0 = No; 1 = Yes</i>	

Table 5.3: Summary of the Selected Independent Variables for Testing the Hypotheses (cont.)

Independent Variables	Operationalisation	Source of Data
<i>Ownership-structure Attributes (OSV)</i>		Annual Report
Institutional Investors (H_8)	Total shares owned by institutional shareholders disclosed in the “30 largest shareholders” information in the annual reports/Total number of shares issued.	
Top Ten Shareholders (H_9)	Total shares owned by top ten shareholders disclosed in the “30 largest shareholders” information in the annual reports/Total number of shares issued.	
Family Members on the Board (H_{10})	Total family members ¹ on the Board/ Total number of directors on the Board.	
<i>Market-related Factors (MRV)</i>		
Type of Industry (H_{11})	1 = Consumer Products 2 = Construction 3 = Industrial Products 4 = Plantation 5 = Properties 6 = Trading & Services 7 = Infrastructure & Technologies (Others)	
Auditor Size (H_{12})	Big Four vs. Non-Big 4 0 = No 1= Yes	
Foreign Activities (H_{13})	Dichotomous: Yes/No 0 = No; 1 = Yes	

¹ In Malaysia, spouses, parents, children, brothers, sisters and the spouses of such children, and their brothers and sisters are considered as family members, as stated in Section 122A of the Malaysian Companies Act, 1965.

Table 5.3: Summary of the Selected Independent Variables for Testing the Hypotheses (cont.)

<i>Control Variable:</i>	Operationalisation	Source of Data
<i>Corporate Characteristics</i>		Annual Report
Size	Total Assets as at 31 December 2007 (Log Assets)	
Profitability	Net Income /Total Owners' Equity	
Gearing	Total Debt/Total Assets	
Business Complexity	Actual number of subsidiaries	

5.6 Analyses and Test Statistics Employed

Sophisticated statistical techniques are used to ensure the generalisability of the construct across measures or methods (Krippendorff 2004, p. 315; Weber 1990). However, before performing comprehensive statistical analyses to address all the research questions, all variables and data were checked for errors. Next, from the clean data file, simple frequency distributions for categorical variables and descriptive statistics (minimum, maximum, mean, standard deviation) and histograms for continuous variables were obtained at the outset as part of preliminary analyses. Tests on the continuous variables in terms of normality and possible outliers were also performed to avoid unnecessary violation of assumptions made by individual statistical tests (Pallant 2007). Here, histograms and a specific test of normality (Kolmogorov-Smirnov) are used to check for normality. Since real data seldom distribute normally, a small degree of 'skewness' is acceptable for parametric analyses. However, if data for the study show too much 'skewness', the analyst has two options: to transform the data, or to opt for non-parametric analyses.

The results from the Kolmogorov-Smirnov test (or K-S) for normality, as shown in Table 5.4 below, are highly significant, indicating that the distributions are not normal.

Table 5.4 : Kolmogorov-Smirnov Test for Normality

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
Accruals Quality	.295	224	.000
Additional Regulation	.297	224	.000
Ethnicity of Chairperson	.364	224	.000
Ethnicity of Managing Director	.489	224	.000
Ethnic Ownership Structure	.522	224	.000
Ethnic Composition of Directors on Board	.468	224	.000
Education of Board of Directors (Acctg. and/or Business)	.539	224	.000
Education of Board of Directors (Islamic Studies)	.536	224	.000
Institutional Investors	.231	223	.000
Top 10 Shareholders	.073	222	.006
Family Members on Board	.312	224	.000
Type of Industry	.211	224	.000
Auditor Size	.446	224	.000
Foreign Activities	.426	224	.000
Size	.157	224	.000
Profit	.230	224	.000
Gearing	.065	224	.023
Business Complexity	.220	223	.000

a. Lilliefors Significance Correction

Therefore, in this study, parametric analyses alone may not be suitable to test of all variables because the analyses are dependent on the assumption of a normal distribution. Besides correlation analysis, both parametric and non-parametric univariate analyses were carried out to explore the associations (strength and direction) of the dependent variables and independent variables as stated in Figure 5.1. Non-parametric analyses were employed because they avoid the complications of transforming the data. Results are conclusive if both analyses coincide. In cases where the parametric and non-parametric analyses give different results, the results of the non-parametric analyses are considered to be more reliable because the distribution is clearly not normal. Different statistical techniques were then used to explore the relationship between variables and the differences between groups of variables.

Additionally in this study, multivariate analysis, specifically hierarchical multiple regression, was performed to illustrate the nature of the relationship between the dependent variable and several independent variables chosen for testing hypotheses (Hair et al 2006). To quote from Pallant (2007, p. 151);

Multiple regression tells you how much of the variance in your dependent variable can be explained by your independent variables. It also gives you an indication of the relative contribution of each independent variable. Tests allow you to determine the statistical significance of the results, in terms of both the model itself and the individual independent variables.

The multiple regression method is the most widely used in the existing literature as what has been mentioned in 4.3.2 previously. Table 5.5 below summarises the hypotheses, the variables involved and the statistical analyses conducted to achieve the research objectives in this study.

Table 5.5: Summary of Hypotheses, Variables Involved and Method of Analysis

Description	Hypothesis	Variable	Method of Analysis
<i>ADR</i>	H ₁	Status of Company	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation, • Simple Regression • Kruskal-Wallis test
<i>CULT</i>	H ₂	Ethnicity of Chairperson	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation • T-test comparison of means • Mann-Whitney U-test
	H ₃	Ethnicity of Managing Director	
	H ₄	Ethnic ownership structure	
	H ₅	Ethnic composition of directors on board	
	H ₆	Qualification of Directors in Accounting or Business	
	H ₇	Qualification of Directors in Islamic Studies	
<i>OSV</i>	H ₈	Institutional Investors	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation • Simple Regression
	H ₉	Top Ten Shareholders	
	H ₁₀	Family Members on Board	
<i>MRV</i>	H ₁₁	Type of Industry	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation • ANOVA • Kruskal-Wallis Test
	H ₁₂	Auditor Size	
	H ₁₃	Foreign Activities	
<i>Control Variables: Corporate Characteristics</i>		Size	<ul style="list-style-type: none"> • Pearson's/Spearman correlation, • Simple regression
		Profitability	
		Gearing	
		Business Complexity	

5.7 Results and Discussion

This section presents and discusses the results of the data analyses carried out in this study. Data were analysed using both univariate and multivariate analyses. In this section, descriptive statistics are presented first, followed by the presentation of the relationships between variables, and later discussion on results related to the analyses of specific hypotheses.

5.7.1 Descriptive Statistics

Descriptive statistics for the continuous and categorical variables for the companies involved in this study are presented in Tables 5.6 and 5.7 below. Table 5.6 reports the values of mean, median, standard deviation, minimum, and maximum values of each continuous variable, whereas Table 5.7 reports the number and percentage values of all categorical variables included in this study.

Table 5.6: Descriptive Statistics for Continuous Variables

Variable	Labels	n	Mean	Median	Std Deviation	Min	Max
Accruals Quality	AQ	224	0.098	0.069	0.161	0.01	2.23
Institutional Investors	INSIV	223	0.855	0.920	0.203	0.04	1.00
Top ten shareholders	TTSH	222	0.640	0.660	0.155	0.00	0.99
Family members on board	FMB	224	0.213	0.180	0.231	0.00	0.73
Size	SIZE	224	6.913	6.395	1.408	3.15	10.83
Gearing	Gearing	224	0.414	0.380	0.244	0.02	2.14
Business Complexity	CMPLX	223	23.430	14	28.307	0.00	256
Profitability	Profit	224	0.109	0.090	0.224	-0.75	2.12

From the descriptive statistics of continuous variables shown on Table 5.6 above, it is apparent that on average, companies affected in this study are companies with a majority of the shares held by top ten shareholders (mean = 64%) and owned by institutional investors (mean = 85%). Only 21% of all the companies included in

this study had family members on their Board of Directors. When looking at the companies' characteristics, the companies included in the study could be considered to be large companies (mean = RM6.9 million total assets). The average level of gearing is relatively high (41%), but this could be considered normal for a larger listed company. Performance of the selected companies is represented by the profitability ratio, measured by dividing the Net Income of the companies by the total owners' equity. Results from the table show that the average net income of the companies included in this study is quite low (10%). Business complexity is measured by referring to actual number of subsidiaries. From the table, it can be seen that on average the companies affected in this study are having 23 subsidiaries companies. The highest number of subsidiaries is 256 and there is also one company without any subsidiary.

Next, Table 5.7 below shows that more than half of the companies included in the analysis are categorized as SCC (56%). The result also revealed that 55% of companies have an ethnic Malay chairperson, but 80% of companies have non-Malay managing directors. When referring to the ethnic ownership structure, the percentage of companies in which Malay shareholding predominates is less than 1%. Three-quarters of companies included in this analysis have more non-Malay directors on the Board than Malay directors. Table 5.7 reveals that nearly all companies have directors with formal accounting or business qualifications (97%), and a majority of the companies (98%) do not have directors with Islamic studies qualifications.

The results also show that 71% of companies included in the analysis are audited by one of the Big 4 audit firms. The largest portion of the companies included in the analysis came from the Industrial Products (IP) group (32%). This is in line with the total population of companies listed on Bursa Malaysia, where IP companies constitute the largest group listed on the Bursa Malaysia. Additionally, about 67% of the companies included in this study are involved in foreign activities.

Table 5.7: Descriptive Statistics of Categorical Variables

Variable	Number of companies for Analysis	
	N = 224	%
Additional Regulation (ADR) based on Status of Company		
• DLL (Listed & Delisted as SCC)	33	14.7
• SNC (<i>Shariah</i> Non-compliant)	65	29
• SCC (<i>Shariah</i> -compliant)	126	56.3
Ethnicity of Chairperson		
• Companies with Malay Chairperson	122	54.5
• Companies with Chairperson other than Malay	102	45.5
Ethnicity of Managing Directors		
• Companies with Malay Managing Director	46	20.5
• Companies with Managing Directors other than Malay	178	79.5
Ethnic Ownership Structure Dichotomy		
• Companies in which proportion of Malay Shareholding exceeds that of other ethnic groups	1	0.4
• Companies in which proportion of Malay Shareholding is less than that of other ethnic groups	223	99.6
Ethnic Composition of Directors on Board		
• Companies where proportion of Malay Directors on the Board exceeds those of other ethnic groups	56	25
• Companies where proportion of Malay Directors on Board is less than other ethnic groups	168	75
Education of Board of Directors (Accounting or Business)		
• Companies with directors with Accounting or Business qualification	218	97.3
• Companies without directors with Accounting or Business qualification	6	2.7
Education of Board of Directors (Islamic Studies)		
• Companies with directors with Islamic Studies qualification	4	1.8
• Companies without directors with Islamic Studies qualification	220	98.2

Table 5.7: Descriptive Statistics of Categorical Variables (cont)

Variable	Number of companies for Analysis	
	N = 224	%
Type of Industry		
• Consumer Products	31	13.8
• Constructions	21	9.4
• Industrial Products	72	32.1
• Plantations	18	8.0
• Properties	31	13.8
• Trading & Services	39	17.4
• Others	12	5.4
Auditor Size		
• Big 4	158	70.5
• Non Big 4	66	29.5
Foreign Activities		
• Companies involved with foreign activities	149	66.5
• Companies do not involved with foreign activities	75	33.5

5.7.2 Level of Earnings Quality in Malaysian Public Listed Companies

Accounting discretion allowed by GAAP provides opportunities for the management to manage earnings for their own specific objectives. Jones (1991) examined whether firms that received benefit from import relief tended to decrease earnings during the investigation period and found that managers did decrease the reported earnings with the intention of obtaining the import relief and/or to increase the amount of relief granted. In a similar vein, using Spanish companies as their sample, Mora and Sabater (2008) found evidence that managers depressed earnings prior to labour negotiation within the firms to avoid salary demands. Botsari and Meeks (2008) obtained findings consistent with previous studies when they examined the earnings management by bidders in shares for share mergers in the LSE for a period from 1997 to 2001. In China, Wang et al (2008) found that the frequency and magnitude of earnings management were higher during the post-2000 period, a period when domestic investors were allowed to trade B shares that were previously limited to foreign investors. Cohen and Zarowin (2010) examined earnings management activities around seasoned equity offerings and found that SEO firms

engaged in EM activities in the year of the SEO. Apart from the above mentioned studies, results from other previous earnings management research (Baker, et al., 2009; Gong et al., 2008; Heron & Lie 2007) evidenced that firms would manage earnings as a result of certain incentives offered by various parties. Therefore, based on AQ analysis, the objective of this section is to investigate the level of EQ in Malaysia public listed companies from 2000 to 2007.

In 2007, the Malaysia International Islamic Financial Centre (MIFC) offered various incentives to SCCs (see Table 3.4 in Chapter 3). Multiple regression analyses between the variables were carried out for each group of companies, i.e., SCC, SNC and DLL in order to see whether the incentives offered to SCC companies in 2007 affected the level of earnings quality of companies listed in Bursa Malaysia. Additionally, a bar chart was constructed to demonstrate the distribution of average AQ from 2000 to 2007 for each group.

Analyses for SCC, SNC and DLL from 2000 to 2007 were carried out and detailed results of all multiple regression analyses for each group in each year are presented in Table 5.8; Table 5.9 summarises the results of AQs for each group from 2000 to 2007.

All VIF and Tolerance values of each variable for all groups and years are below 10 and more than 0.1 respectively, thus no multi-collinearity issues are noted in the analyses. Furthermore, the analyses are found to be significant at 0.01% for 87% of SCC; 50% of SNC, but only 12.5% of DLL. In addition, analyses were also found to be significant at 0.1% and 5% level for 25% of SNC and 37.5% of DLL. R^2 values for 83% of the analyses were greater than 20%.

Table 5.8: Standard Multiple Regression Results for SCC, SNC and DLL, from 2000 to 2007

Panel A: SCC (n = 126)

Year	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	PPE	R Squared		F-Value	Durbin-Watson	Residuals	ANOVA-Sig.
							R ²	Adj				
2000	0.012 0.687	0.324 3.115**	-0.551 -4.758***	0.273 2.513*	0.120 3.360**	-0.037 -1.110	0.24	0.21	7.653	2.417	0.09403	0.000***
2001	-0.065 -2.463*	0.381 1.971	-0.292 -1.537	0.099 0.541	0.069 0.815	0.095 1.556	0.08	0.04	2.13	2.374	0.14565	0.066
2002	0.035 2.856**	0.207 2.437*	-0.493 -4.737***	0.170 1.724	0.160 4.498***	-0.058 -2.536*	0.32	0.29	11.265	2.170	0.07453	0.000***
2003	-0.004 -0.292	0.402 3.539**	-0.572 -4.937***	0.293 3.133**	0.054 1.499	-0.012 -0.435	0.21	0.18	6.437	1.401	0.07796	0.000***
2004	0.021 1.552	0.306 2.764**	-0.760 -6.798***	0.325 3.629***	0.108 4.780***	-0.014 -0.503	0.37	0.34	13.889	2.164	0.07732	0.000***
2005	0.023 1.939	0.155 1.576	-0.679 -8.000***	0.244 3.371**	0.081 3.411**	-0.006 -0.250	0.39	0.37	15.375	1.966	0.06921	0.000***
2006	0.020 1.177	0.131 1.037	-0.763 -6.921***	0.046 0.454	0.148 4.830***	0.089 2.140	0.39	0.37	15.579	2.162	0.10031	0.000***
2007	0.026 2.166	0.309 3.903	-0.467 -6.508	0.191 3.386	0.078 4.036	-0.048 -1.802	0.44	0.42	18.834	2.342	0.07225	0.000***

Panel B: SNC (n = 65)

Year	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	PPE	R Squared		F-Value	Durbin-Watson	Residuals	ANOVA-Sig.
							R ²	Adj				
2000	-0.031 -0.765	1.061 4.005***	-1.190 -6.764***	-0.429 -2.891**	0.072 0.763	0.276 5.212***	0.73	0.71	31.85	31.85	0.15360	0.000***
2001	-0.025 -0.763	0.202 0.962	0.026 0.136	0.230 0.980	0.079 1.268	-0.051 -0.747	0.11	0.03	1.379	1.194	0.13034	0.245
2002	0.039 1.752	0.406 2.722**	-0.475 -3.058**	-0.049 -0.405	0.112 2.194*	-0.012 -0.243	0.26	0.19	4.087	1.673	0.08319	0.003**
2003	0.042 2.378*	0.457 3.754***	-0.503 -4.620***	0.023 0.325	0.180 4.033***	-0.035 -0.833	0.39	0.34	7.469	1.607	0.06345	0.000***
2004	0.036 1.747	0.549 4.139***	-0.841 -8.163***	0.080 0.715	0.163 3.858***	0.012 0.275	0.61	0.58	18.350	2.189	0.07144	0.000***
2005	-0.042 -2.233*	0.263 2.599*	-0.288 -2.602*	0.103 1.149	0.160 2.992**	0.103 2.559*	0.37	0.31	6.850	1.980	0.05980	0.000***
2006	0.043 1.462	0.358 1.755	-0.003 -0.020	-0.223 -1.529	0.218 2.879**	-0.122 -1.743	0.19	0.12	2.773	2.142	0.10136	0.026*
2007	-0.011 -0.394	0.414 2.161*	-0.622 -4.022***	0.030 0.194	0.082 1.621	0.095 1.282	0.28	0.22	4.664	1.976	0.09933	0.001**

Panel C: DLL (n = 33)

Year	Intercept	CFO _{t-1}	CFO _t	CFO _{t+1}	ΔRev	PPE	R Squared		F-Value	Durbin-Watson	Residuals	ANOVA-Sig.
							R ²	Adj				
2000	0.020 0.346	0.039 0.078	0.824 1.333	-1.808 -2.998**	0.092 0.304	0.176 1.145	0.27	0.14	2.023	1.847	0.15840	0.107
2001	-0.153 -2.363*	0.959 1.038	-0.380 -0.524	-0.206 -0.345	0.477 1.032	0.120 0.694	0.08	-0.09	0.484	0.2011	0.18476	0.785
2002	0.004 0.190	0.705 2.612*	-0.692 -3.178**	0.009 0.075	0.546 2.629*	-0.042 -1.128	0.43	0.33	4.088	2.087	0.06184	0.007**
2003	0.026 0.834	0.226 0.619	-1.072 -6.369***	0.345 1.401	-0.010 -0.037	0.100 1.125	0.64	0.58	9.653	2.366	0.09063	0.000***
2004	-0.061 -1.560	-0.136 -0.403	-0.013 -0.029	0.149 0.279	0.343 1.793	0.114 1.110	0.44	0.20	1.327	2.336	0.11671	0.283
2005	0.001 0.053	0.181 0.653	-0.894 -2.775**	0.362 1.842	0.025 1.303	0.011 0.236	0.45	0.35	4.4	1.838	0.06004	0.005**
2006	-0.028 -1.360	0.031 0.140	-0.257 -1.504	0.140 1.255	0.124 1.264	0.054 0.885	0.21	0.06	1.434	1.734	0.05783	0.244
2007	0.079 0.269	-1.264 -0.576	0.749 0.364	-1.752 -0.573	-3.712 -3.040**	-0.016 -0.017	0.36	0.24	3.042	2.402	0.88096	0.026*

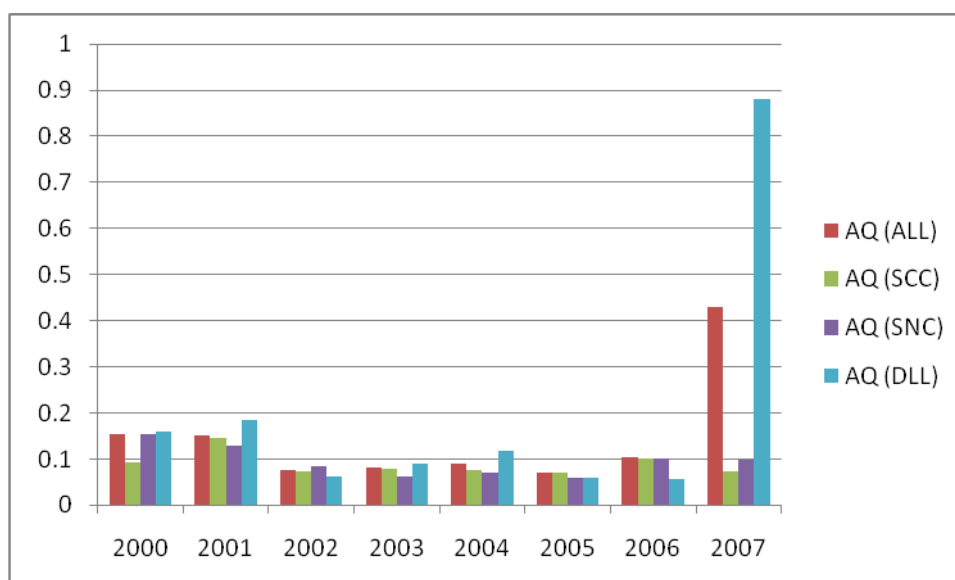
The t-statistics in Panel A are determined based on the distribution of 126 coefficients obtained from SCC status-specific regressions, t-statistics in Panel B are determined based on the distribution of 65 coefficients obtained from SNC status-specific regressions, and t-statistics in Panel C are determined based on the distribution of the 33 coefficients obtained from the DLL status-specific regressions. Data were obtained from the companies' annual reports from 1999 to 2008.

*, **, *** Variables make a statistically significant unique contribution to the prediction of the dependent variable at 5%, 1% and 0.01% respectively. All variables are defined in Table 4.1

Table 5.9: Standard Deviation of Residuals (AQ) for each Group and ALL (Average) from 2000 to 2007

Year	GDP	AQ (ALL)	AQ (SCC)	AQ (SNC)	AQ (DLL)
2000	8.3%	0.15401	0.09403	0.15360	0.15840
2001	0.4%	0.15131	0.14565	0.13034	0.18476
2002	4.4%	0.07747	0.07453	0.08319	0.06184
2003	5.4%	0.08287	0.07796	0.06345	0.09063
2004	7.1%	0.08877	0.07732	0.07144	0.11671
2005	5.3%	0.07075	0.06921	0.05980	0.06004
2006	5.8%	0.10370	0.10031	0.10136	0.05783
2007	6.3%	0.42921	0.07225	0.09933	0.88096

Figure 5.2: Bar Chart: AQ for each Group and ALL (Average) from year 2000 to year 2007



Legends:

AQ: Accrual Quality as proxy for EQ

SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC);

SNC defined as companies involved in activities not permitted by *Shariah* principles;

DLL defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study.

Table 5.9 and Figure 5.2 above indicate that, on average, the AQ for companies in 2007 was higher than from 2000 to 2006. The results above also show that a larger contribution of AQ was found in DLL companies. Thus, companies in Malaysia, specifically companies grouped under DLL, tended to manage their reported earnings in the year 2007. DLL companies have a higher probability to be listed as SCC once they meet the ICM requirements. This suggests that the quality of earnings reported by DLL companies was quite low, because they were able to manage the reported earnings in order to be listed as SCC companies and therefore be eligible to receive the incentives offered.

However, the AQ for SCC companies in 2007 were slightly lower than the AQ for SCC companies in 2006. The results also showed that there was not much difference for the AQ of SNC companies in 2007 and 2006. This suggests that companies already listed as SCC did not manage their earnings in 2007 because they were already entitled to the incentives offered. As for SNC companies, the quality of earnings reported is not much different because the incentives offered to SCC companies are not relevant to them and have no effect on them.

It is also apparent that in the early years of the *Shariah* Securities phase, that is, in 2000 and 2001, the levels of AQ were higher than from 2002 to 2006. In 2000, 2001, 2003, 2004 and 2005, the AQ of DLL companies were higher than those of SCC and SNC companies. The AQ for SCC have remained lower than the average AQ. The AQ for SNC companies were lower than those for SCC companies in 2001, 2003, 2004 and 2005.

From the analysis above it can be seen that, throughout the period of study, the EQ level of Malaysian companies fluctuated and was inconsistent. This might be due to various factors such as regulatory factors, incentives offered, and varying economic conditions experienced by the country during the period of the study. The findings suggested that the existence of regulatory agencies, specifically the *Shariah* Advisory Council and the strict *Shariah* rules imposed on the companies, made it possible to identify which companies would manipulate their reported earnings in

order to take advantage of the incentives offered. Furthermore, the results proved that thorough assessments performed by the SAC and its authority to revoke the SCC status of companies which could no longer comply with SAC requirements, enabled the stakeholders to identify which companies are not performing well.

As stated previously in Chapter 3, the unstable economic conditions experienced by the country through out the period of study form 1999 to 2007, have had an impact on the quality of earnings reported by the Malaysian companies. In 2000 and 2001, the results demonstrated that the management teams engaged in earnings management activities more than in the following years; hence, the reported earnings of those years are of lower quality. This could be in order to achieve their own specific objectives such as to avoid a potentially sharp drop in share price, to avoid potential adverse effects of uncontrollable market factors, and to remain sustainable in the market (Mulford & Comiskey, 2002, p. 61).

The following section will present and discuss in detail findings on other factors that could possibly influence the level of EQ of Malaysian companies.

5.7.3 Univariate Analysis – Test on Relationship between Variables

First, bivariate Pearson product-moment correlation coefficient and non-parametric Spearman *rho* were performed to explore the strength and direction of the linear relationship between EQ and all other variables. Next, different analyses were performed according to the characteristics of each variable to test the hypothesis. Results are presented according to the four different groups of independent variables.

5.7.3.1 Univariate Results: Effect of the Regulatory Factor

The first result and discussion relates to the additional regulatory factor (ADR). H_1 hypothesizes that there is no association between additional regulation (ADR) and the level of EQ. ADR is based on the status of companies, listed according to the

Islamic Capital Market from 1999 to 2007. Table 5.10 presents the correlation between ADR and AQ.

Table 5.10 Correlation Analysis between ADR and AQ

Variable	Correlation	AQ
ADR (n = 224)	Pearson Correlation	.11
	Sig (2 tailed)	.10
	Spearman's <i>rho</i> correlation	.03
	Sig (2 tailed)	.63

According to the correlation results presented above, there is a positive correlation between ADR and AQ. However, the relationships tend to be insignificant. The data were then further analysed using ANOVA and Kruskal-Wallis, and Table 5.11 below reports the findings of these analyses.

Table 5.11: One-way ANOVA and Kruskal-Wallis for ADR

Panel A: One-way ANOVA

Status of Company	N	Mean	Std. Deviation	Levene (Sig.)	Welch (Sig.)	Brown-Forsythe (Sig.)
SNC	65	0.094	0.089	0.000	0.288	0.246
SCC	126	0.082	0.058			
DLL	33	0.167	0.381			

Panel B: Kruskal-Wallis Test

Status of Company	N	Mean Rank	Median	χ^2	df	Sig.
SNC	65	112.43	0.066	1.028	2	.598
SCC	126	109.86	0.068			
DLL	33	122.71	0.081			
TOTAL	224		0.069			

Legend:

SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC);

SNC defined as companies involved in activities not permitted by *Shariah* principles;

DLL defined as companies that were listed but later de-listed as SCC companies, and vice versa, throughout the period of study.

As shown on Table 5.11 above, both parametric (One-way ANOVA) and non-parametric (Kruskal-Wallis test) analyses performed revealed insignificant results.

Further tests were carried out to find out if the results would be different if SCC and DLL companies were grouped together; SCC and SNC companies were grouped together, and SNC and DLL companies were grouped together; however the results revealed from the independent-samples T-test and the Mann-Whitney U-test were the same (see **Appendix 5B**). Therefore, we can conclude that there is no significant association between ADR and EQ. The results from this study are inconsistent with previous studies due to different measurement of ADR. The results also reveal that additional regulations imposed by *Shariah* Advisory Board of the Malaysian Securities Commission and continuous monitoring by the committee of the SCC companies do not have any significant effect on the quality of reported earnings.

5.7.3.2 Univariate Results: Effect of Cultural Factors

As discussed earlier in section 5.2.2, it was expected that the cultural factor (ethnicity) would have an association with EQ. The measurements of culture are similar to those of Haniffa and Cooke (2002). Six hypotheses were formulated to test the relationship between the two variables.

Pearson correlation results as per Table 5.12 below reveal that the relationship between AQ (EQ) and the ethnicity of the Chairperson (55% Malays), the ethnic ownership structure (99.6% non-Malays), the ethnic composition of directors on the Board (75% non-Malays), and accounting and/or business educational qualification of board members (97%) are positively (negatively) correlated. The relationship between AQ (EQ) and the ethnicity of the Managing Director (80% non-Malays) and Islamic educational qualifications of board members (1.8%) is negatively (positively) correlated. Results on ethnicity of managing directors and accounting and/or business educational qualification of board members are found to be different directions when referred to Spearman's *rho* correlation tests. However, all results were found to be insignificant.

Table 5.12: Univariate Results: H₂, H₃, H₄, H₅, H₆ & H₇

Variable	Correlation	AQ
Ethnicity of Chairperson (H ₂)	Pearson Correlation	.12
	Sig (2 tailed)	.07
	Spearman's <i>rho</i> correlation	.10
	Sig (2 tailed)	.12
Ethnicity of Managing Directors (H ₃)	Pearson Correlation	-.01
	Sig (2 tailed)	.90
	Spearman's <i>rho</i> correlation	.01
	Sig (2 tailed)	.92
Ethnic Ownership Structure (H ₄)	Pearson Correlation	.01
	Sig (2 tailed)	.85
	Spearman's <i>rho</i> correlation	.08
	Sig (2 tailed)	.24
Ethnic Composition of Directors on the Board (H ₅)	Pearson Correlation	.00
	Sig (2 tailed)	.97
	Spearman's <i>rho</i> correlation	.05
	Sig (2 tailed)	.47
Accounting and/or Business educational qualifications of board members (H ₆)	Pearson Correlation	.03
	Sig (2 tailed)	.71
	Spearman's <i>rho</i> correlation	-.01
	Sig (2 tailed)	.92
Islamic educational qualifications of board members (H ₇)	Pearson Correlation	-.03
	Sig (2 tailed)	.61
	Spearman's <i>rho</i> correlation	-.06
	Sig (2 tailed)	.35

To confirm that the above argument is valid, the following alternative tests were carried out: independent-samples T-test and non-parametric Mann-Whitney U-test. The results of the analyses are shown in Table 5.13 below:

Table 5.13: Results from T-test and Mann-Whitney U-test Performed for H₂, H₃, H₄, H₅, H₆ & H₇

Variables	N	Mean EQ	Std Deviation (SD)	t-value (sig 2- tailed)	Median	Mann-Whitney (Z-Value/ sig. 2 tailed)
Ethnicity of Chairperson (H₂)						
Malay	122	0.116	0.211	-1.982	0.075	-1.545/0.122
Others	102	0.076	0.053		0.068	
Ethnicity of Managing Director (H₃)						
Malay	46	0.095	0.084	0.125	0.071	-0.097/0.923
Others	178	0.099	0.176		0.068	
Ethnic Ownership Structure (H₄)						
> Malay	1	0.128	0	0	0.128	-1.175/0.240
< Malay	223	0.098	0.161		0.068	
Ethnic Composition of Directors on the Board (H₅)						
> Malay	56	0.099	0.082	-0.036	0.074	-0.723/0.470
< Malay	168	0.098	0.180		0.068	
Accounting and/or Business educational qualifications of board members (H₆)						
Yes	218	0.099	0.163	-0.370	0.068	-0.096/0.924
No	6	0.074	0.029		0.086	
Islamic educational qualifications of board members (H₇)						
Yes	4	0.057	0.031	0.509	0.052	-0.942/0.346
No	220	0.099	0.162		0.069	

Based on the results above, this study is able to confirm that the cultural factor has no effect on EQ. As in studies conducted by Abdul Rahman and Mohamed Ali (2006), this study also reveals that no variables related to culture are found be significantly related to EQ.

5.7.3.3 Univariate Results – Ownership-structure Influences

Table 5.14 below presents the results of the relationship between ownership factors, including institutional investors (INSIV), top ten shareholders (TTSH), and family members on the Board (FMB), with AQ. Although previous studies found that a high proportion of shares held by institutional investors was associated with higher earnings quality and lower earnings management, this study found no significant relationship between the two. However, a negative relationship exists between

INSIV, FMB and AQ, and a positive relationship exists between TTSH and AQ. Accordingly, in this study it can be seen that a high proportion of shares held by institutional investors could co-occur with a high EQ, but a high proportion of shares held by top ten shareholders had no apparent effect on the level of EQ. In other words, the presence of family members on the board could prevent earnings management activities.

Table 5.14: Correlation Analysis between INSIV, TTSH and FMB, and AQ

Variable	Correlation	AQ
Institutional Investor (INSIV) (n = 223)	Pearson Correlation	.07
	Sig (2 tailed)	.33
	Spearman's <i>rho</i> correlation	-.01
	Sig (2 tailed)	.92
Top Ten Shareholder (TTSH) (n = 222)	Pearson Correlation	.09
	Sig (2 tailed)	.21
	Spearman's <i>rho</i> correlation	.01
	Sig (2 tailed)	.87
Family Members on Board (FMB) (n= 224)	Pearson Correlation	-.104
	Sig (2 tailed)	.119
	Spearman's <i>rho</i> correlation	-.107
	Sig (2 tailed)	.111

A simple regression of the variables was then carried out to confirm the findings. Each variable was regressed separately.

Table 5.15: Summary of Coefficients Data Regressed for H₈, H₉ & H₁₀

Variables	β_0	β_1	R^2	DW	F	ANOVA Sig.
INSIV (H ₈)	0.053 1.148	0.052 0.983	0.004	2.036	0.967	0.327
TTSH & AQ (H ₉)	0.041 0.903	0.088 1.262	0.007	2.028	1.593	0.208
FMB (H ₁₀)	0.113*** 0.773	-0.073 -1.564	0.011	2.059	2.446	0.119

Table 5.15 confirms that none of the variables were significant. The p-value of all three variables is more than 0.1, R^2 is very small, and the Beta value and t-value are also very weak.

5.7.3.4 Univariate Results - Effect of Market-related Variables on EQ: Test H_{11} , H_{12} and H_{13}

The following results and discussions are related to the tests performed to examine the effect of market-related variables and AQ. The first analysis and discussion under this category was on the relationship between type of industry (INDS) and AQ. The companies were divided into seven types of industry, namely: Consumer Products; Construction; Industrial Products; Plantations; Properties; Trading and Services; and Others.

Table 5.16 Correlation Analysis between INDS and AQ

Variable	Correlation	AQ
Type of Industry (INDS) (n = 224)	Pearson Correlation	-.04
	Sig (2 tailed)	.59
	Spearman's <i>rho</i> correlation	.17*
	Sig (2 tailed)	.01

Results from the Spearman's *rho* correlation analysis, as shown on Table 5.16 above, confirm that there is a significant relationship between EQ and type of industry. However, the relationship between the two variables is quite weak.

Next, a one-way between-groups analysis of variance was conducted to explore the impact of type of industry on level of earnings. The significant value (Sig.) for Levene's test is 0.02, which is lower than 0.05. Therefore, the analysis violates the homogeneity of variance assumption due to the fact that the group sizes are unequal. As an alternative, results from Welch and Brown-Forsythe are referred to. The results show that there is no significant difference in the level of earnings quality of companies from different types of industry because the significant value of Welch and Brown-Forsythe from the Robust Test of Equality of Means table is more than 0.05. Table 5.17 below shows the results in detail.

Table 5.17: One-way ANOVA for Type of Industry Variable

Type of Industry	N	Mean	Std. Deviation	Levene (Sig.)	Welch (Sig.)	Brown-Forsythe (Sig.)
Consumer Products	31	0.142	0.394	0.020	0.493	0.765
Construction	21	0.080	0.035			
Industrial Products	72	0.089	0.092			
Plantation	18	0.083	0.042			
Properties	31	0.083	0.076			
Trading & Services	39	0.105	0.062			
Others	12	0.106	0.070			

Since the data are not normally distributed, as an alternative method of analysis, a non-parametric analysis, the Kruskal-Wallis test, was run on the same data. Table 5.18 below shows the results from the analysis. The test revealed that there is a statistically significant difference in level of earnings quality across the seven different types of industry (CP, n= 31; Constrn, n = 21; IP, n = 72; Plant, n = 18; Props, n = 31; T&S, n = 39; Others, n = 12), $\chi^2(6, n = 224) = 12.351, p = .05$. Companies in T&S recorded a higher median score (Md = 0.106) and companies in CP had the lowest median score (Md = 0.057).

Table 5.18: Kruskal-Wallis Test for Type of Industry Variable

Type of Industry	N	Mean Rank	Median	χ^2	df	Sig.
Consumer Products	31	92.45	0.057	12.351	6	0.05
Construction	21	120.98	0.077			
Industrial Products	72	103.77	0.063			
Plantation	18	120.69	0.073			
Properties	31	103.52	0.063			
Trading & Services	39	137.49	0.106			
Others	12	131.54	0.091			
TOTAL	224		0.069			

The second element of market related variables is Auditor Size (AUD). In determining whether there is an association between AUD and EQ in Malaysian companies, the first test performed was a correlation test. The results are shown in Table 5.19.

Table 5.19 Correlation Analysis between AUD and AQ

Variable	Correlation	AQ
Auditor Size (AUD) (n = 224)	Pearson Correlation	-.01
	Sig (2 tailed)	.92
	Spearman's <i>rho</i> correlation	-.15*
	Sig (2 tailed)	.03

Results from Table 5.19 above show a contradiction between Pearson's correlation and Spearman's *rho* correlation. Pearson's correlation revealed that there is no correlation between the two variables. However, Spearman's *rho* correlation shows a small, negative correlation between the two variables, $r = -0.15$, $n=224$, $p < 0.05$. In other words, those companies that engaged Big 4 auditors had fewer earnings management activities; therefore their reported earnings were of higher quality.

Alternative tests for AUD and EQ were carried out using independent-samples T-test and non-parametric Mann-Whitney U-test. The results of the analyses are shown in Table 5.20 below:

Table 5.20: Results from T-test and Mann-Whitney U-test Performed for H₁₂**Panel A: Independent-samples T-test**

Auditor Size	N	Mean AQ (M)	Std Deviation (SD)	t-value (sig. 2- tailed)
Big 4	158	.097	.186	0.923
Non Big 4	66	.099	.073	

Panel B: Mann-Whitney U-test

Auditor Size	N	Mean AQ	Median	Mann-Whitney (Z-Value/ sig. 2 tailed)
Big 4	158	106.41	.064	-2.178/0.029*
Non Big 4	66	127.09	.086	

From the independent-samples T-test conducted to examine whether there was an association between EQ and AUD, the result revealed that there is no significant difference between the groups; that is, companies audited by Big 4 audit firms ($M = 0.097$, $SD = 0.18$) and those audited by non-Big 4 audit firms ($M = 0.099$, $SD =$

0.07); $t(222) = 0.97$, $p = 0.923$ (two-tailed). The magnitude of the differences in the means (mean difference = 0.002, 95% CI: - 0.044 to 0.049) was very small (eta squared = 0.000).

However, from the non-parametric analysis, the Mann-Whitney U-test revealed a statistically significant difference between size of audit firms and EQ of Malaysian companies. The Z-value is -2.178 with a significance level of $p=0.029$. The direction of the difference (mean and median values) demonstrates that companies audited by Big 4 audit firms involved fewer earnings management activities than companies audited by Non-Big 4 Audit firms (Md = 0.06, $n = 158$) and non-Big 4 audit firms (Md = 0.08, $n = 66$), $U = 4251$, $z = -2.178$, $p = .029$, $r = 0.14$. However, the r-value indicated that the effect is very small.

The third element of market related variables is Foreign Activities (FRNX). In determining whether there is an association between FRNX and EQ in Malaysian companies, similar tests to AUD were performed. The first test performed was a correlation test. The results are shown in Table 5.21.

Table 5.21 Correlation Analysis between FRNX and AQ

Variable	Correlation	AQ
Foreign Activities (FRNX) ($n = 224$)	Pearson Correlation	-.04
	Sig (2 tailed)	.58
	Spearman's <i>rho</i> correlation	-.08
	Sig (2 tailed)	.24

Results from Table 5.21 above show there is no correlation exists between the two variables. In other words, earnings reported by the management of those companies are not influence by the involvement of companies in any foreign activities.

Alternative tests for FRNX and EQ were carried out using independent-samples T-test and non-parametric Mann-Whitney U-test. The results of the analyses are shown in Table 5.22 below:

Table 5.22: Results from T-test and Mann-Whitney U-test Performed for H₁₃**Panel A: Independent-samples T-test**

Foreign Activities	N	Mean AQ (M)	Std Deviation (SD)	t-value (sig. 2- tailed)
Yes	149	.094	.184	.549/.584
No	75	.106	.101	

Panel B: Mann-Whitney U-test

Foreign Activities	N	Mean AQ	Median	Mann-Whitney (Z-Value/ sig. 2 tailed)
Yes	149	108.9	.068	5050 (-1.173/.241)
No	75	119.7	.074	

From the independent-samples t-test conducted to examine whether there was an association between EQ and FRNX, the result revealed that there is no significant difference between the groups; that is, companies involved in foreign activities (M = 0.094, SD = 0.18) and those without any involvement with foreign activities (M = 0.106, SD = 0.10); $t(222) = 0.549$, $p = 0.584$ (two-tailed). The magnitude of the differences in the means (mean difference = 0.0125, 95% CI: - 0.032 to 0.058) was very small (eta squared = 0.001). The non-parametric analysis (the Mann-Whitney U-test) also revealed a similar finding, i.e. FRNX is not statistically significant in explaining the variability of EQ level.

5.7.3.5 Univariate Results - Corporate Characteristics

Results in Tables 5.23 and 5.24 show the relationship between various measures of corporate characteristics and level of EQ. From the correlation results presented below, the only corporate characteristic variable that was found to be positively and significantly correlated with EQ is *Gearing*. This indicates that managers in companies with a large number of long-term lenders are actively involved in earnings management activities and, therefore, the earnings reported are of low quality. Size and Profitability were found to be insignificant, a finding that is inconsistent with previous researchers' findings (Haron & Atan, 2010; Abdul Rahman & Mohamed Ali, 2006). However, the results revealed a negative

relationship between Size and AQ; and Profitability and AQ. Result for business complexity (CMPLX) shows the relationship of AQ and CMPLX is negative, however it is again insignificant. Results from simple regression reveal that the relationship between the corporate characteristics variables and AQ is insignificant.

Table 5.23 Correlation Analysis between Size, Profit, Gearing, and AQ

Variable	Correlation	AQ
Size (Size) (n = 224)	Pearson Correlation	-.059
	Sig (2 tailed)	.47
	Spearman's <i>rho</i> correlation	-.10
	Sig (2 tailed)	.14
Profitability (Profit) (n = 224)	Pearson Correlation	-.01
	Sig (2 tailed)	.87
	Spearman's <i>rho</i> correlation	.08
	Sig (2 tailed)	.25
Gearing (Gearing) (n = 224)	Pearson Correlation	.06
	Sig (2 tailed)	.36
	Spearman's <i>rho</i> correlation	.16*
	Sig (2 tailed)	.02
Business Complexity (CMPLX) (n = 224)	Pearson Correlation	-.01
	Sig (2 tailed)	.88
	Spearman's <i>rho</i> correlation	-.01
	Sig (2 tailed)	.99

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 5.24: Summary of Coefficients data regressed for Companies Characteristics and AQ

Variables	β_0	β_1	R^2	DW	F	ANOVA Sig.
SIZE	.136* 2.524	-.006 -.727	.002	2.041	.529	.468
PRFM	.099*** 8.238	-.008 -.167	.000	2.042	.028	.868
GEAR	.081*** 3.816	.040 .915	.004	2.052	.837	.361
CMPLX	.099*** 7.073	-5.926E-5 -.155	.000	2.044	.024	.877

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

As results from univariate analyses could be challenged by the multivariate analyses, the next section reveals results related to the multivariate analyses.

5.8 Multiple Regression Analysis

This section discusses the multiple regression analysis performed when examining the association between the dependent variable of EQ and the independent variables of regulation (ADR), cultural factors (CULT), ownership-structure variables (OSV), market-related variables (MRV), and corporate characteristics as control variables. According to Field (2009) and Pallant (2007), there are three methods of regressions, namely standard or simultaneous; hierarchical or sequential; and stepwise. In order to progressively and comprehensively measure the change in explanatory power of ADR variables, CULT variables, OSV variables, MRV variables, and corporate characteristics as control variables, concerning the EQ, this study employed hierarchical multiple regressions. To quote from Pallant (2007, p. 147):

In hierarchical multiple regression, variables or sets of variables are entered in steps (blocks), with each independent variable being assessed in terms of what it adds to the prediction of the dependent variable, after the previous variables have been controlled for... Once all sets of variables are entered, the overall model is assessed in terms of its ability to predict the dependent measure.

To avoid perfect collinearity in the ADR variable, the SCC was used as a benchmark to compare with the other categories (SNC and DLL). For the same reason, for the industry variable, companies included in the ‘Other’ sector were used as a control group.

Therefore the regression equation of the main model is as follows:

$$EQ_j = \beta_0 + \beta_1ADR_{1j} + \beta_2ADR_{2j} + \beta_3EOC_j + \beta_4EMD_j + \beta_5EOS_j + \beta_6ECDB_j + \beta_7EDAB_j + \beta_8EDIS_j + \beta_9INSIV_j + \beta_{10}TTSH_j + \beta_{11}FMB_j + \beta_{12}INDS_{1j} + \beta_{13}INDS_{2j} + \beta_{14}INDS_{3j} + \beta_{15}INDS_{4j} + \beta_{16}INDS_{5j} + \beta_{17}INDS_{6j} + \beta_{18}AUD_j + \beta_{19}FRNX_j + \beta_{20}Size_j + \beta_{21}Gearing_j + \beta_{22}Profit_j + \beta_{23}CMPLX_j + \varepsilon_j$$

Where;

- EQ_j = The respective earnings quality metric for firm *j*
- ADR₁ = 1 if the company is categorised as SNC; 0 otherwise
- ADR₂ = 1 if the company is categorised as DLL; 0 otherwise
- EOC = 1 if the company has a Malay chairperson; 0 otherwise
- EMD = 1 if the company has a Malay managing director; 0 otherwise
- EOS = 1 if the proportion of Malay shareholdings exceed those of other ethnic groups; 0 otherwise
- ECDB = 1 if the proportion of Malay Directors on the Board exceeds those of other ethnic groups; 0 otherwise
- EDAB = 1 if at least one member of Board of Directors with a qualification in Accounting or Business; 0 otherwise
- EDIS = 1 if at least one member of Board of Directors with a qualification in Islamic Studies; 0 otherwise
- INSIV = Total shares owned by institutional shareholders disclosed in the “30 largest shareholders” information in the annual reports / Total number of shares issued.
- TTSH = Total shares owned by top ten shareholders disclosed in the “30 largest shareholders” information in the annual reports / Total number of shares issued.
- FMB = Total family members on board / Total number of Directors on the Board.
- INDS₁ = 1 if the company is in the Consumer Products sector; 0 otherwise
- INDS₂ = 1 if the company is in the Constructions sector; 0 otherwise

INDS ₃	=	1 if the company is in the Industrial Products sector; 0 otherwise
INDS ₄	=	1 if the company is in the Plantations sector; 0 otherwise
INDS ₅	=	1 if the company is in the Properties sector; 0 otherwise
INDS ₆	=	1 if the company is in the Trading and Services sector; 0 otherwise
AUD	=	1 if the company has a Big-4 auditor; 0 otherwise
FRNX	=	1 if the company has involved in any foreign activities; 0 otherwise
Size	=	Log of the firm's total assets [correlation tests between total assets and revenue show the scores are highly correlated (.858**)]
Profit	=	Net Income /Total Owners' Equity
Gearing	=	Total Debt/Total Assets
CMPLX	=	Business Complexity (Actual number of subsidiaries)
β ₀	=	Intercept
β ₁ – β ₂₃	=	The coefficients of the independent variables
ε _j	=	Error term

Note:

ADR₁ and ADR₂ = dummy variables for additional regulatory factor.

INDS₁ to INDS₆ = dummy variable for industry specific factor.

Accordingly, based on the main model mentioned above, five separate cross-sectional regression models are examined to test the hypotheses. The five models are as follow:

$$EQ_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \varepsilon_j \quad \text{(Model 5a)}$$

$$EQ_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 ADR_j + \beta_6 ADR_{2j} + \varepsilon_j \quad \text{(Model 5b)}$$

$$EQ_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 ADR_j + \beta_6 ADR_{2j} + \beta_7 EOC_j + \beta_8 EMD_j + \beta_9 EOS_j + \beta_{10} ECDB_j + \beta_{11} EDAB_j + \beta_{12} EDIS_j + \varepsilon_j \quad \text{(Model 5c)}$$

$$EQ_j = \beta_0 + \beta_1 \text{Size}_j + \beta_2 \text{Gearing}_j + \beta_3 \text{Profit}_j + \beta_4 \text{CMPLX}_j + \beta_5 \text{ADR}_j + \beta_6 \text{ADR}_{2j} + \beta_7 \text{EOC}_j + \beta_8 \text{EMD}_j + \beta_9 \text{EOS}_j + \beta_{10} \text{ECDB}_j + \beta_{11} \text{EDAB}_j + \beta_{12} \text{EDIS}_j + \beta_{13} \text{INSIV}_j + \beta_{14} \text{TTSH}_j + \beta_{15} \text{FMB}_j + \varepsilon_j$$

(Model 5d)

$$EQ_j = \beta_0 + \beta_1 \text{Size}_j + \beta_2 \text{Gearing}_j + \beta_3 \text{Profit}_j + \beta_4 \text{CMPLX}_j + \beta_5 \text{ADR}_j + \beta_6 \text{ADR}_{2j} + \beta_7 \text{EOC}_j + \beta_8 \text{EMD}_j + \beta_9 \text{EOS}_j + \beta_{10} \text{ECDB}_j + \beta_{11} \text{EDAB}_j + \beta_{12} \text{EDIS}_j + \beta_{13} \text{INSIV}_j + \beta_{14} \text{TTSH}_j + \beta_{15} \text{FMB}_j + \beta_{16} \text{INDS}_{1j} + \beta_{17} \text{INDS}_{2j} + \beta_{18} \text{INDS}_{3j} + \beta_{19} \text{INDS}_{4j} + \beta_{20} \text{INDS}_{5j} + \beta_{21} \text{INDS}_{6j} + \beta_{22} \text{AUD}_j + \beta_{23} \text{FRNX}_j + \varepsilon_j$$

(Model 5e)

Notes:

Model 5e is the same model as the one described above as the main model.

5.8.1 Hierarchical Multiple Regression Results

The hierarchical multiple regression analyses as above were carried out and the findings, as shown in Table 5.25 below, revealed that the explanatory power of each model are weak because the R^2 for the five models range from 0.6% to 10.4% only. Additionally, each model appeared to be insignificant ($p > 10\%$). However, some of the variables that are insignificant in univariate analyses are found to be significant when examined in the multiple regression analyses.

In Model 5a, the AQ level is regressed against control variables, and found that none of the variables has a significant association with the level of AQ. After the additional regulatory (ADR) variables are included in the equation, the model as a whole (see Model 5b) explains 4.1%, an increase of 3.5% as compared to the previous model (Model 5a). ADR_2 is found to be significant at a 1% level when testing the effect of additional regulatory factors on EQ level, and continues to show the significant effects on EQ for the rest of the analyses (see Model 5b to Model 5e).

Model 5c is performed to examine whether the elements of culture improve the model. It is evidenced that the cultural attributes explained as additional of 2% only. In addition, there is only one variable which shows a significant effect on the EQ, i.e.

EOC. EOC is found to have a positive association with the AQ level; thus it reveals that the interaction among EOC and EQ is in a negative direction. Similar to ADR_2 , EOC continues to show significant effects on EQ even when ownership-structure variables and market-related variables are included in the analyses.

With regard to ownership-structures, Model 5d reveals that the only variable which shows a significant association with EQ is top-ten shareholders (TTSH). The attribute however turn to be insignificant when market-related variables included in the model (refer Model 5e).

Other than ADR_2 and EOC, results from the full model show that other attributes, such as ownership-structure factors and market-related factors, did not influence the way management prepared and reported the accounting figures.

Table 5.25: Hierarchical Regression results (*Unstandardised coefficients*) from Multivariate Analysis of Determinants of Accruals Quality (AQ)

	Model 5a	Model 5b	Model 5c	Model 5d	Model 5e
R²	0.6%	4.1%	6.1%	8.5%	10.4%
Adjusted R²	-1.2%	1.4%	0.7%	1.8%	-0.1%
R² Change	0.6%	3.5%	2.0%	2.4%	1.8%
F-Value	.351	1.538	1.132	1.278	.994
p-value	.843	.167	.336	.219	.475
Constant	.121* (1.998)	.113^a (1.893)	.077 (.878)	-.038 (-.347)	-.037 (-.298)
Variables					
Size	-.005 (-.664)	-.006 (-.810)	-.002 (-.265)	.000 (.049)	.001 (.173)
Profit	-.015 (-.299)	-.005 (-.107)	-.004 (-.081)	-.022 (-.440)	-.036 (-.695)
Gearing	.041 (.898)	.041 (.906)	.040 (.846)	.058 (1.204)	.068 (1.298)
CMPLX	.000 (-.292)	.000 (-.578)	.000 (-.382)	-7.463E-5 (-.181)	-4.801E-5 (-.108)

	Model 5a	Model 5b	Model 5c	Model 5d	Model 5e
ADDITIONAL REGULATORY FACTOR					
ADR ₁		.013 (.516)	-.014 (.549)	-.024 (.939)	.024 (.894)
ADR ₂		.088** (2.778)	.093** (2.889)	.097** (3.032)	.104** (3.076)
CULTURAL FACTORS					
EOC			.050* (1.995)	.045^a (1.743)	.048^a (1.826)
EMD			-.028 (-.642)	-.044 (-.989)	-.042 (-.938)
EOS			.043 (.259)	.047 (.280)	.070 (.398)
ECDB			-.003 (-.074)	-.013 (-.302)	-.024 (-.559)
EDAB			-.015 (-.224)	-.005 (-.071)	-.004 (-.063)
EDIS			-.017 (-.205)	-.021 (-.253)	-.025 (-.292)
OWNERSHIP-STRUCTURE VARIABLES					
INSIV				.015 (.241)	.026 (.407)
TTSH				.137^a (1.726)	.108 (1.301)
FMB				-.075 (-1.392)	-.075 (-1.307)
MARKET-RELATED VARIABLES					
INDS ₁					.058 (.987)
INDS ₂					-.006 (-.101)
INDS ₃					.021 (.378)
INDS ₄					.026 (.390)
INDS ₅					-.015 (-.244)
INDS ₆					.028 (.487)
AUD					-.016 (-.623)
FRNX					-.016 (-.594)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

5.9 Discussion of the Univariate and Multivariate Results

The study investigated the extent to which regulatory factors influenced the level of earnings quality of SSC companies. The main objective of this study is to investigate companies listed as ‘*Shariah-compliant*’ (SCC) because these companies are subject to additional requirements set by the *Shariah* Advisory Board. Companies were then categorised as SCC, SNC and DLL companies. Analyses were carried out using both parametric and non-parametric analyses. Results from the univariate analyses revealed that there was no difference in the effect of additional regulations and continuous monitoring imposed by SAC members on SCCs and the other groups of companies. In the multiple hierarchical regression analysis, when the SCC was used as the benchmark to compare with the other categories, findings from multivariate analyses found that ADR_1 have no significant effect on the EQ level. However, Model 5b to Model 5e from Table 5.25 clearly indicate that companies grouped as DLL (ADR_2) are found to have a positive significant association with AQ; thus there is a negative significant association with the EQ level.

Analyses carried out on the Standard deviation of firm j 's residuals as proxy to EQ from 2000 to 2007 to investigate the level of earnings quality (EQ) in Malaysian public listed companies, show that the EQ level of Malaysian companies was lower in 2007, especially for companies categorized as DLL companies. This is consistent with results from hierarchical multiple regression analyses and supports the arguments that managers of DLL companies attempt to manage earnings; therefore, the qualities of earnings reported by DLL companies are low as compared to SCC and SNC. Consistent with previous studies (Baker et al., 2009; Botsari & Meeks, 2008; Cohen & Zarowin, 2010; Gong et al., 2008; Heron & Lie, 2007; Jones 1991; Mora & Sabater, 2008; Wang et al., 2008), this study found that companies will manage their earnings in order to take advantage of incentives or benefits offered by various agencies and are therefore not fit to be included in the SCC groups. Subsequently, the problematic companies could be detected by the additional layer of regulation and continuous monitoring performed by the SAC.

Apart from regulations, this study also examined other factors that could be statistically significant in influencing variations in the quality of reported earnings. Factors such as culture, ownership-structure attributes, and market-related variables have been comprehensively examined.

Although results related to the variable of culture were found to be insignificant in univariate analyses, one of the attributes (i.e. EOC) is found to have a significant association with the EQ level. It is evidenced that the level of EQ is associated with the ethnicity of the chairperson (EOC) (see Model 5c to Model 5e). The results suggest that companies with a Malay chairperson tend to have more earnings management activities. These findings contradict the statement by Alhabshi (1994; quoted in Haniffa & Cooke, 2002) that culture, tradition, values, and individual beliefs would influence the way people behave. A Malay chairperson was unable to encourage the management team to be more transparent and honest when performing their duties (Abdul Rahman & Mohamed Ali, 2006). These findings are inconsistent with previous research carried out in other parts of world (Doupink, 2008; Han et al., 2010); nevertheless, they are found to be consistent with previous research carried out in Malaysia (Abdul Rahman & Mohamed Ali, 2006).

The findings related to variables linked to ownership-structure factors such as institutional investors, top-ten shareholders, and family members on the Board are found to be insignificant in both univariate and multivariate analyses. The findings are inconsistent with those of Bushee (1998), Chung et al. (2002), Collins et al. (2003) and Koh (2007). Furthermore, of the 224 companies included in this study, only one company has formed a *Shariah* Supervisory Board (SSB) within the company. Therefore, no further analysis of governance issues related to the SSB was attempted due to this constraint.

In terms of market-related factors, the only factors that were found to be significant in univariate analyses were type of industry and auditor size, but the relationship between EQ and these variables was weak. However, the market-related factors appeared to be insignificant in multivariate analyses. The results are inconsistent

with arguments made by Palepu et al. (2004), Dechow and Dichev (2002), and Ball and Shivakumar (2005).

Table 5.26 summarised the empirical findings of variables that affected the level of EQ in Malaysia, and Chapter 9 will discuss in detail the practical implications of the findings in this chapter.

Table 5.26: Summary of Empirical Findings from Univariate and Multivariate Analyses of Variables Examined on Earnings Quality (EQ) Level

Hypotheses	Univariate	Multivariate
H ₁ : Additional Rules and Regulations	ns	-sig**
Cultural Factors		
H ₂ : Ethnicity of Chairperson	ns	-sig**
H ₃ : Ethnicity of Managing Director	ns	ns
H ₄ : Ethnic Ownership Structure	ns	ns
H ₅ : Ethnic Composition of Director on Board	ns	ns
H ₆ : Qualification of Directors in Accounting/Business	ns	ns
H ₇ : Qualification of Directors in Islamic Studies	ns	ns
Ownership-structure Variables		
H ₈ : Institutional Investor	ns	ns
H ₉ : Top the Shareholder	ns	ns
H ₁₀ : Family Members on Board	ns	ns
Market-related Variables		
H ₁₁ : Type of Industry	+sig*	ns
H ₁₂ : Auditor Size	+sig*	ns
H ₁₃ : Foreign Activities	ns	ns

Legends:

ns: not significant +sig: positive relationship -sig: negative relationship
sig*: significant at 5% **sig: significant at 1% *sig: significant at 0.1%
^a: Significant at 10%

5.10 Conclusion

All Malaysian public listed companies are subject to the same rules and regulations, accounting standards and tax laws, and their financial statements must be audited. However, companies listed as SCC have to adhere to an additional layer of regulations, namely *Shariah* Law. As stated earlier, this chapter set out to explore the level of earnings quality (EQ) in Malaysian public listed companies in order to examine whether additional regulatory factors have influenced the level of earnings quality of SSC companies, and to determine whether other factors are statistically significant in explaining variations in the quality of reported earnings.

Based on the EQ analysis, it was found that there are variations on the level of EQ from 2000 to 2007: the EQ level for the year 2007 was found to be lower than the EQ level of previous years. These results suggested that the management teams' behaviour while preparing the financial information, the quality of earnings reported, the incentives offered, and the economic conditions are moving in the expected directions. In order to obtain the incentives offered, and to ensure the survival of the firms during the economic crisis, the management would manage the financial information; therefore the quality of earnings reported is of low quality during that period.

However, when adherence to additional regulations is required of a certain group of companies, and when there is an authority that is continuously monitoring the firms, companies that were consistently listed as SCC would avoid getting involved in earnings management activities. This is found to be consistent with previous studies (Ali & Hwang, 2000; Ball & Shivakumar, 2005; Burgstahler et al., 2006; Hung, 2001; Leuz et al., 2003) which argued that a strong regulation system was influential in reducing earnings management activities.

With regard to other determinants of EQ level, findings from the univariate analyses revealed that auditor size, type of industry, and Gearing were found to have associations with EQ. Plausible explanations for the significant relationship may be

based on the: i) Signalling Theory, i.e. the appointment of high quality, more credible and professional auditors as proxies by the Big 4 audit firm, acts as an indicator and a guarantee from the management teams to the stakeholders that the earnings reported by the them are of high quality with fewer or no manipulations at all; ii) consistent with Institutional Theory, firms of the same industry would replicate strategies of other successful companies in executing their tasks and therefore the quality of earnings reported by the same industry are expected to be similar; and iii) since Gearing is the basic but important accounting numbers required by the creditors, firms with a low degree of leverage report a high quality of earnings because they are in a safe and sound position; and strong enough to face unexpected risks or recessions.

In contrast, the overall results presented from the multiple regression analysis suggest that the level of EQ in Malaysia is associated with ADR_2 and EOC and other variables were found to be insignificant. Additional regulations imposed by *Shariah* Advisory Council are able to differentiate companies that adhere to the rules and those manipulating the facts for specific objectives. The Malay chairperson is not a guarantee for a firm to be in a better financial position.

The insignificant relationships between ownership structure variables contradict Agency Theory; one reasonable explanation could be that the institutional investors, top-ten shareholder ,and Board of directors are not able to fully exercise their power, do not possess the required skills, knowledge and experience, or/and are occupied with other activities (Abdul Rahman & Mohamed Ali, 2006; Beasley, 1996; Graves & Waddock, 1990; Peasnell et al., 2000 & 2005; Piotroski & Roulstone, 1994; Porter, 1992).

Nevertheless, overall, findings demonstrated from this study (from univariate and multivariate analyses) are able to support the hypothesis that earnings quality of Malaysian companies could be determined by the regulatory factor, ethnicity of chairperson, auditor size, and type of industry. Additional rules and regulation, as well as continuous monitoring by regulatory bodies have important roles in the

financial statements properties: they could mitigate the aggressive earnings management activities.

Malaysia is a developing country, and this fact contributes to limitations of the conclusions and inferences drawn from the analyses. For example, the majority of the companies in Malaysia are owned by institutional investors. In this study, on average, 83% of the companies selected are owned by institutional investors. Therefore, it is quite difficult to examine the factors related to individual shareholders of the firms.

In relation to the culture attributes, it is relatively difficult to determine whether the place where Board members received their education influences the way they manage the companies. There were only six companies in the sample where a majority of members on the Boards of Directors possessed tertiary education qualifications obtained only from Malaysian institutions of higher learning. A further 131 companies had at least one member of the Board of Directors who had obtained his or her tertiary education in Malaysia. The majority of the members sitting on Boards of Directors received their education outside of Malaysia, or from a combination of Malaysia and overseas countries.

Moving on from the findings of this chapter, the following chapters discuss different perspectives of disclosure. Chapter 6 empirically evaluate the level of social disclosure based on an Islamic Perspective of Accounting and Chapter 7 discusses the conceptual framework, variable identification, and hypotheses development. Both chapters report the findings consecutively.

Appendix 5A: Companies Selected for EQ & ISCR Study

No.	Company Name	Status	Industry
1	A & M Realty Bhd	SCC	Properties
2	Advance Synergy Bhd	NSC	Industrial Product
3	Ahmad Zaki Resources Bhd	NSC	Construction
4	AIC Corporation Bhd	NSC	Technology
5	Ajinomoto (M) Bhd	SCC	Consumer Product
6	Ajiya Bhd	NSC	Industrial Product
7	AKN Technology Bhd	NSC	Technology
8	Amalgamated Containers Bhd	SCC	Industrial Product
9	Amalgamated Industrial Steel Bhd	SCC	Industrial Product
10	Amway (M) Holdings Bhd	SCC	Trading & Services
11	Ancom Bhd	SCC	Industrial Product
12	Ann Joo Resources Bhd	SCC	Industrial Product
13	Apollo Food Holdings Bhd	SCC	Consumer Product
14	Asas Dunia Bhd	SCC	Properties
15	Asia File Corporation Bhd	NSC	Consumer Product
16	Asia Pacific Land Bhd	NSC	Properties
17	Asiatic Development Bhd	SCC	Plantation
18	Astral Asia Bhd	NSC	Plantation
19	Batu Kawan Bhd	SCC	Plantation
20	BCB Bhd	SCC	Properties
21	Berjaya Land Bhd	NSC	Trading & Services
22	Berjaya Sports Toto Bhd	NSC	Trading & Services
23	Bina Darulaman Bhd	SCC	Properties
24	Bina Puri Holdings Bhd	SCC	Construction
25	Bintai Kinden Corporation Bhd	SCC	Trading & Services
26	Boustead Holdings Bhd	NSC	Plantation
27	Box-Pak (Malaysia) Bhd	DLL	Industrial Product
28	Brem Holdings Bhd	SCC	Construction
29	British American Tobacco (M) Bhd	NSC	Consumer Product
30	C.I. Holdings Bhd	SCC	Consumer Product
31	Carlsberg Brewery Malaysia Bhd	NSC	Consumer Product
32	CB Industrial Product Holding Bhd	NSC	Industrial Product
33	Chemical Company of Malaysia Bhd	SCC	Industrial Product
34	Chin Teck Plantations Bhd	SCC	Plantation
35	Chin Well Holdings Bhd	SCC	Industrial Product
36	Choo Bee Metal Industries Bhd	SCC	Industrial Product

SCC: Shariah-compliant Companies; NSC: Shariah Non-compliant Companies;

DLL: Companies Listed & De-Listed as Shariah-compliant Companies

No.	Company Name	Status	Industry
37	Country Heights Holdings Bhd	DLL	Properties
38	Crescendo Corporation Bhd	SCC	Properties
39	Cycle & Carriage Bintang Bhd	SC	Industrial Product
40	Daibochi Plastic & Packaging Inds Bhd	NSC	Industrial Product
41	Delloyd Ventures Bhd	SCC	Industrial Product
42	Dialog Group Bhd	NSC	Trading & Services
43	Digi.Com Bhd	SCC	Infrastructure
44	Dijaya Corporation Bhd	SCC	Properties
45	DKLS Industries Bhd	NSC	Construction
46	DRB-Hicom Bhd	NSC	Industrial Product
47	Dutch Lady Milk Industries Bhd	SCC	Consumer Product
48	Eastern & Oriental Bhd	DLL	Properties
49	Eastern Pacific Industrial Corp. Bhd	SCC	Trading & Services
50	Ekovest Bhd	NSC	Construction
51	Ekran Bhd	DLL	Properties
52	Eksons Corporation Bhd	NSC	Industrial Product
53	Eng Teknologi Holdings Bhd	NSC	Technology
54	EP Manufacturing Bhd	NSC	Industrial Product
55	Esso Malaysia Bhd	SCC	Industrial Product
56	Eupe Corporation Bhd	DLL	Properties
57	Evermaster Group Bhd	NSC	Industrial Product
58	FACB Industries Incorporated Bhd	SCC	Industrial Product
59	Far East Holdings Bhd	SCC	Plantation
60	FCW Holdings Bhd	SCC	Industrial Product
61	Fiamma Holdings Bhd	SCC	Trading & Services
62	Fima Corporation Bhd	SCC	Properties
63	Focal Aims Holdings Bhd	NSC	Properties
64	Formosa Prosonic Industries Bhd	NSC	Construction
65	Fraser & Neave Holdings Bhd	DLL	Consumer Product
66	Gamuda Bhd	DLL	Construction
67	Genting Bhd	NSC	Trading & Services
68	George Kent (M) Bhd	SCC	Trading & Services
69	Glenealy Plantations (M) Bhd	SCC	Plantation
70	Globetronics Technology Bhd	NSC	Technology
71	Goh Ban Huat Bhd	SCC	Industrial Product
72	Gold Bridge Engineering & Cons. Bhd	NSC	Properties
73	Golden Pharos Bhd	SCC	Consumer Product

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DLL: Companies Listed & De-Listed as Shariah-compliant Companies*

No.	Company Name	Status	Industry
74	Gopeng Bhd	SCC	Industrial Product
75	Guinness Anchor Bhd	NSC	Consumer Product
76	Hirota Holdings Bhd	NSC	Industrial Product
77	Ho Hup Construction Company Bhd	SCC	Construction
78	Hock Seng Lee Bhd	SCC	Construction
79	Hong Leong Industries Bhd	DLL	Consumer Product
80	Hume Industries (M) Bhd	SCC	Industrial Product
81	I-Bhd	SCC	Consumer Product
82	IJM Corporation Bhd	SCC	Construction
83	Industrial Concrete Products Bhd	SCC	Industrial Product
84	Integrated Logistics Bhd	SCC	Trading & Services
85	IOI Corporation Bhd	NSC	Plantation
86	IOI Properties Bhd	SCC	Properties
87	Ipmuda Bhd	SCC	Trading & Services
88	Jaya Tiasa Holdings Bhd	SCC	Industrial Product
89	John Master Industries Bhd	SCC	Consumer Product
90	Johor Land Bhd	DLL	Properties
91	JT International Bhd	NSC	Construction
92	Keck Seng (M) Bhd	SCC	Industrial Product
93	Keladi Maju Bhd	DLL	Properties
94	Ken Holdings Bhd	NSC	Construction
95	KFC Holdings (M) Bhd	SCC	Trading & Services
96	Khee San Bhd	SCC	Consumer Product
97	Kia Lim Bhd	SCC	Industrial Product
98	Kian Joo Can Factory Bhd	DLL	Industrial Product
99	Kim Hin Industry Bhd	SCC	Industrial Product
100	Kossan Rubber Industries Bhd	NSC	Industrial Product
101	KPJ Healthcare Bhd	SCC	Trading & Services
102	Kramat Tin Dredging Bhd	DLL	Industrial Product
103	Kulim (M) Bhd	SCC	Plantation
104	Kurnia Setia Bhd	SCC	Plantation
105	Kwantas Corporation Bhd	SCC	Plantation
106	Land & General Bhd	SCC	Properties
107	Latitude Tree Holdings Bhd	NSC	Consumer Product
108	LB Aluminium Bhd	SCC	Industrial Product
109	Leader Steel Holdings Bhd	NSC	Industrial Product
110	Leader Universal Holdings Bhd	SCC	Industrial Product

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No.	Company Name	Status	Industry
111	Lien Hoe Corporation Bhd	DLL	Properties
112	Linear Corporation Bhd	NSC	Industrial Product
113	Lingkar Trans Kota Holdings Bhd	DLL	Infrastructure
114	Lingui Development Bhd	SCC	Industrial Product
115	Lityan Holdings Bhd	DLL	Technology
116	LKT Industrial Bhd	NSC	Technology
117	Mah Sing Group Bhd	NSC	Properties
118	Malayan Flour Mills Bhd	SCC	Consumer Product
119	Malayan United Industries Bhd	NSC	Trading & Services
120	Malaysia Smelting Corporation Bhd	SCC	Industrial Product
121	Malaysian Airline System Bhd	NSC	Trading & Services
122	Malaysian Merchant Marine Bhd	NSC	Trading & Services
123	Malaysian Pacific Industries Bhd	SCC	Technology
124	Mamee-Double Decker (M) Bhd	SCC	Consumer Product
125	MBM Resources Bhd	DLL	Trading & Services
126	Mechmar Corporation (M) Bhd	DLL	Trading & Services
127	Mega First Corporation Bhd	SCC	Trading & Services
128	Mentiga Corporation Bhd	SCC	Industrial Product
129	Merge Energy Bhd	SCC	Construction
130	Metrod (M) Bhd	SCC	Industrial Product
131	Mieco Chipboard Bhd	SCC	Industrial Product
132	Minho (M) Bhd	SCC	Industrial Product
133	Mintye Industries Bhd	SCC	Consumer Product
134	Mitrajaya Holdings Bhd	SCC	Construction
135	Muda Holdings Bhd	SCC	Industrial Product
136	Muhibbah Engineering (M) Bhd	SCC	Construction
137	Multi Vest Resources Bhd	NSC	Plantation
138	Multi-Purpose Holdings Bhd	NSC	Trading & Services
139	MWE Holdings Bhd	DLL	Consumer Product
140	Nam Fatt Corporation Bhd	SCC	Construction
141	Nationwide Express Courier Services Bhd	NSC	Trading & Services
142	Negri Sembilan Oil Palms Bhd	DLL	Plantation
143	Nestle (M) Bhd	SCC	Consumer Product
144	New Hoong Fatt Holdings Bhd	NSC	Consumer Product
145	Nylex (M) Bhd	SCC	Industrial Product
146	OCB Bhd	SCC	Trading & Services
147	Oriental Holdings Bhd	DLL	Consumer Product

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No.	Company Name	Status	Industry
148	Oriental Interest Bhd	SCC	Properties
149	Pasdec Holdings Bhd	DLL	Properties
150	Padiberas Nasional Bhd	SCC	Trading & Services
151	Padini Holdings Bhd	NSC	Consumer Product
152	Pan Malaysia Corporation Bhd	DLL	Industrial Product
153	Paramount Corporation Bhd	NSC	Properties
154	Patimas Computers Bhd	NSC	Technology
155	PCCS Group Bhd	SCC	Construction
156	PDZ Holdings Bhd	SCC	Trading & Services
157	Perak Corporation Bhd	NSC	Trading & Services
158	Petaling Tin Bhd	DLL	Properties
159	Petronas Dagangan Bhd	SCC	Trading & Services
160	Petronas Gas Bhd	SCC	Industrial Product
161	Pilecon Engineering Bhd	SCC	Construction
162	Pintaras Jaya Bhd	DLL	Construction
163	PK Resources Bhd	DLL	Properties
164	PLB Engineering Bhd	NSC	Construction
165	PNE PCB Bhd	SCC	Industrial Product
166	Press Metal Bhd	NSC	Industrial Product
167	Prestar Resources Bhd	NSC	Industrial Product
168	P'sahaan Sadur Timah M'sia(Perstima) Bhd	SCC	Industrial Product
169	Puncak Niaga Holdings Bhd	DLL	Infrastructure
170	Putera Capital Bhd	SCC	Consumer Product
171	Resorts World Bhd	NSC	Trading & Services
172	Rubberex Corporation (M) Bhd	NSC	Industrial Product
173	Sarawak Oil Palms Bhd	SCC	Plantation
174	Scientex Incorporated Bhd	SCC	Industrial Product
175	Seal Incorporated Bhd	SCC	Industrial Product
176	Selangor Dredging Bhd	DLL	Properties
177	Shell Refining Co (F.O.M.) Bhd	SCC	Industrial Product
178	SHL Consolidated Bhd	SCC	Properties
179	Sin Heng Chan (Malaya) Bhd	SCC	Consumer Product
180	Sindora Bhd	DLL	Industrial Product
181	Sinora Industries Bhd	SCC	Industrial Product
182	Sitt Tatt Bhd	SCC	Industrial Product
183	Southern Acids (M) Bhd	SCC	Industrial Product
184	Southern Steel Bhd	SCC	Industrial Product

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No.	Company Name	Status	Industry
185	SP Setia Bhd	SCC	Properties
186	SRII Bhd	NSC	Trading & Services
187	Star Publications (M) Bhd	SCC	Trading & Services
188	Subur Tiasa Holdings Bhd	SCC	Industrial Product
189	Sunrise Bhd	SCC	Properties
190	Talam Corporation Bhd	DLL	Properties
191	Taliworks Corporation Bhd	NSC	Trading & Services
192	Tan Chong Motor Holdings Bhd	DLL	Consumer Product
193	Tanco Holdings Bhd	DLL	Properties
194	Tanjong Public Limited Company	NSC	Trading & Services
195	Tasek Corporation Bhd	SCC	Industrial Product
196	TDM Bhd	SCC	Plantation
197	Tekala Corporation Bhd	SCC	Industrial Product
198	Telekom Malaysia Bhd	SCC	Trading & Services
199	Tenaga Nasional Bhd	SCC	Trading & Services
200	Texchem Resources Bhd	NSC	Trading & Services
201	TH Group Bhd	SCC	Plantation
202	Thong Guan Industries Bhd	NSC	Industrial Product
203	Tradewinds (M) Bhd	SCC	Trading & Services
204	Transmile Group Bhd	DLL	Trading & Services
205	Triumphal Associates Bhd	NSC	Trading & Services
206	TSH Resources Bhd	NSC	Industrial Product
207	UAC Bhd	SCC	Industrial Product
208	UMW Holdings Bhd	SCC	Consumer Product
209	Unisem (M) Bhd	SCC	Technology
210	United Malayan Land Bhd	SCC	Properties
211	United Plantations Bhd	SCC	Plantation
212	UPA Corporation Bhd	NSC	Consumer Product
213	Utusan Melayu (M) Bhd	SCC	Trading & Services
214	V.S Industry Bhd	SCC	Industrial Product
215	WCT Engineering Bhd	SCC	Construction
216	Wijaya Baru Global Bhd	DLL	Industrial Product
217	WTK Holdings Bhd	SCC	Industrial Product
218	Yee Lee Corporation Bhd	SCC	Consumer Product
219	Yeo Hiap Seng (M) Bhd	SCC	Consumer Product
220	YLI Holdings Bhd	NSC	Industrial Product

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No.	Company Name	Status	Industry
221	YTL Cement Bhd	SCC	Industrial Product
222	YTL Corporation Bhd	DLL	Construction
223	YTL Power International Bhd	DLL	Infrastructure
224	Yung Kong Galvanising Industries Bhd	NSC	Industrial Product

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Appendix 5B

Results from T-test and Mann-Whitney U-test Performed for EQ and ADR

Variables	N	Mean EQ	Std Deviation (SD)	t-value (sig 2- tailed)	Median	Mann-Whitney (Z-Value/ sig. 2 tailed)
ADR (i)						
SCC	126	.082	.058	.130	.068	-.691/.490
Others	98	.119	.233		.073	
ADR (ii)						
SNC	65	.094	.089	.820	.066	-.010/.992
Others	159	.099	.182		.070	
ADR (iii)						
DLL	33	.167	.381	.232	.081	-.980/.327
Others	191	.086	.070		.068	

Notes:

The significance level of Levene's test when SNC and DLL companies were grouped together, and SCC and SNC companies were grouped together, revealed that the data violates the assumption of equal variance. Therefore, results presented for ADR (i) and ADR (iii) were based on the results generated from equal variances not assumed.

CHAPTER 6

ISLAMIC SOCIAL DISCLOSURE (ISCR) OF MALAYSIAN PUBLIC LISTED COMPANIES: EMPIRICAL FINDINGS

6.1 Introduction

The Islamic Capital Market (ICM), introduced by the Securities Commission, Malaysia, incorporates the elements of *Shariah* Law as an additional layer of regulation to the companies listed as *Shariah*-compliant companies (SCCs). It could be expected that this additional regulation would indirectly have an effect on the information dissemination by the SCCs because, as stated in Section 2.4.1, sufficient disclosure from the Islamic perspective is important for stakeholders to demonstrate their accountability to society, the environment, the companies, and to God (*Allah*) as well, due to the injunctions imposed upon them through *Shariah* Law. Accordingly, this chapter intends to answer the following specific research question (SRQ):

SRQ5: What is the extent of Islamic Social Disclosure (ISCR) in the annual reports of Malaysian public listed companies?

The chapter is organized as follows: **Section 6.2** discusses the development of a disclosure checklist and the arguments related to each theme. It provides insights into social disclosure, specifically into the disclosure of items deemed important from an Islamic perspective in Malaysia. **Section 6.3** discusses the research methods adopted in answering the research question; this includes a detailed overview of procedures performed throughout the study from data collection to data analysis. An explanation of sample selection and data sources and the analyses involved are also provided. **Section 6.4** presents and discusses empirical evidence concerning the depth of social disclosure in the Islamic context for Malaysian companies and, finally, **Section 6.5** concludes the chapter.

6.2 Islamic Social Disclosure (ISCR)

Islamic social disclosure refers to information provided by the management teams of the firms which; once disclosed could enhance the ability of users to make sound economic and religious decisions, and assist them to evaluate whether firms activities are operated in accordance with Islamic principles (Haniffa, Hudaib & Mirza, 2005) and particularly with *Shariah* Law. Generally, the information disclosed includes the firm's long-term strategy, its products and/or services offered, the firm's social commitments to the community and employees welfare, its achievements in reducing pollution, as well as other issues related to corporate governance, corporate social responsibilities, environmental reporting, and commitment to religious requirements (Abu-Baker & Naser, 2000; Botosan, 1997; Francis et al., 2008; Haniffa & Cooke, 2002; Kanagaretnam et al., 2007; Kristandl & Bontis, 2007; Palepu et al. 2004; Sevin et al. 2007).

Most previous studies have examined social disclosure in an Islamic context in Islamic financial institutions but not in other sectors. Since little research has been done on *Shariah*-compliant companies (SCCs) in the Islamic Capital Market in Malaysia, this study incorporates themes and items derived from information available in bulletins of the Malaysian Islamic Capital Market (ICM), and earlier studies, specifically research carried out by Adnan & Abu Bakar, 2009; Baydoun & Willet, 2000; Grais & Pellegrini, 2006; Haniffa & Hudaib 2007; Haniffa & Hudaib, 2002; Haniffa, Hudaib & Mirza, 2004; Kamla, 2007; Maali et al., 2003; Maali et al., 2006; Othman & Md Thani, 2010; and Othman et al., 2009. The checklist was designed carefully to ensure that the findings could be significant and understandable, and the relationship of themes and items would behave as expected (Echambadi et al., 2006; Weber 1990).

6.2.1 Themes Included in the Islamic Social Disclosure Checklist

After an extensive review, eight themes were identified and included in the disclosure checklist in this study. They are: underlying philosophy and values (UPV); *Shariah* Supervisory Board (SSB); products and/or services (PS); *Zakat* (ZKT); employees (EYS); environment (NVRM), community (CTY); and Islamic terminology and values (ITV). The following section discusses each of the themes in detail.

6.2.1.1 Underlying Philosophy and Values (UPV)

Haniffa and Hudaib (2007) argued that the management should be financially and morally accountable for their business behaviour (p. 100). Management teams are responsible for ensuring that, while managing the company and trying to maximise the company's wealth, the stakeholders' interests are not being ignored. Since members of management have been trusted, they should render their duties in a trustworthy manner.

As stated in the *Qur'an*:

Verily! Allah commands that you should render back the trusts to those whom they are due.

(An-Nisa: 58)

Additionally, Sayed Kotb, a well-known Muslim scholar explained that: "*Islam lays down the principle of mutual responsibility in all its various shapes and forms. In it we find the responsibilities which exist between a man and his soul, between a man and his immediate family, between the individual and society, between community and other communities* (quoted in Beekun, 1997, p. 27).

For the shareholders' benefit, the management should be responsible for providing returns in accordance with *Shariah* principles. What is more, if they have claimed that their companies are SCC companies, they should ensure that all investments, financing, and operations are permissible according to the definition stated in the *Qur'an, Hadith², Ijtihad and Qiyas*. In the case of Malaysia, there are also guidelines prepared by the *Shariah* Advisory Council of the Securities Commission, Malaysia that could be referred to. Under this theme, as suggested by Haniffa and Hudaib (2002), members of the management are also expected to fulfil their contract via a contract (*Uqud*) statement.

Accordingly, these commitments should be disclosed in the mission and vision statement of a company. The company's underlying philosophy and values (UPV) should be easily identifiable by the organisation's population and clearly visible for the benefit of other stakeholders; it should be stated in the annual reports. As a result, once a company discloses to the public its commitment to manage the business in accordance with *Shariah* principles, Muslim stakeholders should then have no doubt that everything related to the company is consistent with the Islamic requirements. Indirectly, this disclosure could also assist the company to portray a good image to their stakeholders.

6.2.1.2 *Shariah* Supervisory Board (SSB)

As narrated by Abu Hurayrah, "The Prophet (pbuH) is reported to have said:

The inmates of Paradise are of three types: one who wields authority and is just and fair, one who is truthful and has been endowed with power to do good deeds; and the person who is merciful and kind-hearted towards his relatives and to every pious Muslim, and who does not stretch out his hand in spite of having a large family to support.

² This study, however, will not deal in depth with the argument on the ranking and authenticity of the *Hadith*; it merely highlights the evidence mentioned to support the discussions.

Apart from the vision and mission statement, and in line with Haniffa and Hudaib (2004), this study suggests that the existence of a *Shariah* Supervisory Board (SSB) in a company seems to be an important element of an organisation claiming to be a *Shariah*-compliant Company (SCC). The SSB is required in order to ensure that the operational, investment, and financing activities are in compliance with Islamic principles. The level of confidence of a Muslim community is higher if a company engages a group of Islamic experts to monitor its business activities. Grais and Pellegrini (2006, p. i) argue, since the SSB is close to the market and performs duties as an internal entity of the firm, the public would expect the Board to ensure adequate consistency of the interpretation of *Shariah* requirements with external agencies and to enhance the enforceability of the contracts before civil courts. Since they are the trusted entities, they are expected to serve the public accordingly.

As Ibn Omar reported that the Messenger of Allah (pbuH), said:

(As for) an untrustworthy man, a standard will be raised for him on the Resurrection Day. It will be declared: This is the deceit of so and so.

(Sound & agreed Hadith).

In the context of SCCs approved by the SC, the requirement for the firms to set up their own SSB within the organisation is not stated in any rules or regulation. Thus, without their own SSB, SCC companies rely on the judgements made by *Shariah* Advisory Council at the SC, Malaysia. Therefore it is important for a company not only to set up the committee, but also to disclose this information in the annual reports in order to keep the public informed of their commitment to ensuring that their business activities are in line with Islamic Law. Such a step would also indirectly portray a good image, improve the company's reputation, and increase stakeholder's trust.

6.2.1.3 Products and/or Services (PS)

According to Islamic principles, a company which intends to serve the Muslim community should be free from prohibited activities and elements such as *Riba* (interest), *Gharar* (ambiguity), *Maisir* (gambling) and non-*Halal* (prohibited) food and drinks, as well as immoral activities (Haniffa & Hudaib, 2002). In addition to the Holy *Qur'an*, *Hadith*, *Ijtihad* and *Qiyas*, the SAC under the SC, Malaysia has provided guidelines on products or services that are not in accordance with Islamic requirements (ICM guidelines).

Islamic legal treaties have reinforced the management's responsibilities towards ensuring product and service quality. For example, one of the Islamic schools of thought (Hanafi school) mentioned that: "*When the seller has sold a property as possessed of some good quality, if that property turns out to be without quality, the buyer has an option. If he wishes, the sale is annulled, and if he wishes, he accepts the thing sold for the whole price named*" (Al Majallah (The Ottoman Courts Manual [Hanafi]), Section II, Option for Misdescription, 310).

Furthermore, in Islamic business transactions, usury (*Riba*) or interest is prohibited in Islamic transactions because it exacerbates the economic conditions. As Lewison (1999) mentioned in his paper, usury is also prohibited by the orthodox branches of Judaism. Usury increases the debtors' burden; it should be eliminated from the lending services to reduce the burden of the poor. In a *Hadith* narrated by Aishah (r.a.w.), "*Somebody said to [the Prophet], 'Why do you so frequently seek refuge with Allah from being in debt?' The Prophet (pbuh) replied, 'A person in debt tells lies whenever he speaks, and breaks promises whenever he makes (them)'*" (quoted in Beekun 1997, p. 8). Additionally, the amount of interest charged on the debt is significant and can make it difficult for debtors to pay the amount that they originally owed.

As stated in the *Qur'an*:

Those who consume usury will not stand except as stands one whom the Evil one by his touch hath driven to madness. That is because they say: Trade is like usury, but Allah hath permitted trade and forbidden usury. O ye who believe! Fear Allah and give up what remains of your demand for usury, if ye are indeed believers. If ye do it not, take notice of war from Allah and His Messenger: but if ye repent ye shall have your capital sums; deal not unjustly and ye shall not be dealt with unjustly. If the debtor is in a difficulty grant him time till it is easy for him to repay. But if ye remit it by way of charity, that is best for you if ye only knew."

(Al-Baqarah, verses 275-280)

Furthermore, as pointed out by Karim (2006), interest is prohibited in Islam to prevent a huge difference between the poor and the rich and to encourage mutual co-operation between them.

Gambling is also prohibited because it brings problems to the community, especially when a person is addicted to it. In addition, food and drinks consumed should also be *Halal*. Alcohol is prohibited due to the detriment it brings to the people. *Al-Qur'an* has emphasised issues on gambling and alcohol several times, as below:

They ask thee concerning wine and gambling. Say: "In them is great sin, and some profit for men; but the sin is greater than the profit." They ask thee how much they are to spend; say: "What is beyond your needs." Thus doth Allah make clear to you His Signs: in order that ye may consider.

(Al-Baqarah, 219)

O ye who believe! Intoxicants and gambling, (dedication of) stones, and (divination by) arrows, are an abomination – of Satan’s handiwork: eschew such (abomination), that ye may prosper. Satan’s plan is (but) to excite enmity and hatred between you, with intoxicants and gambling, and hinder you from the remembrance of Allah, and from prayer: will ye not then abstain?

(Al-Maeda, 90-91)

As mentioned by one *Hadith*: “*Verily Allah and His Messenger have forbidden the sale of wine, carcass, swine and idols*” (HR Muslim). Additionally, animals should be slaughtered according to *Halal* practices in order to guarantee a healthier meal for the consumer.

Therefore, it is required for a company to disclose its products and/or services so that the stakeholders could determine whether the company complies with or contravenes the *Shariah*.

6.2.1.4 Zakat (ZKT)

The original meaning of the word *Zakat* is both purification and growth (Ibrahim, 1997, p. 66). *Zakat* is one of the five pillars of Islam. Muslims believe that all things belong to God (*Allah*) and therefore a certain amount of wealth should be shared with those in need (Beekun, 1997, p. 8). The wealthy people are only a medium between God (*Allah*) and those live in poverty. Basically, *Zakat* is a means for redistribution of wealth and relief of poverty (Dean & Khan, 1997, p. 26).

The *Qur'an* mentioned *Zakat* more than 30 times; one of many references is as follows:

Your (real) friends are (no less than) Allah, His Messenger, and the Believers, those who establish regular prayers and pay zakat, and they bow down humbly (in worship). (Al Maeda: 55)

In another reference, as narrated by Anas (quoted from the translation by Sahih Bukhari, Book 44); “*that Abu Bakr As-Siddiq wrote to him the law of Zakat which was made obligatory by Allah’s Apostle. He wrote: ‘Partners possessing joint property (sheep) have to pay its Zakat equally.’*”

However, there are still unresolved debates on whether business entities should pay *Zakat*. In the Islamic jurists view, a company would be required to pay *Zakat* either as an entity or on behalf of its owners under four conditions: a) when the law requires the company to satisfy the *Zakat* obligations as an entity; b) when the company is required by its charter or by-laws to satisfy the *Zakat* obligation as an entity; c) when the general assembly of shareholders passes a resolution requiring the company to satisfy the *Zakat* obligation as an entity; and d) when individual owners authorise the company to act as their agent satisfying the *Zakat* obligation (Sulaiman, 2003, p. 11).

Conversely, in the case of Bank Islam Malaysia Berhad (BIMB) v. Adnan bin Omar (1994), the court held that BIMB is a corporate institution created by statute and it is therefore subject to the principle of separate legal entity as originated by Salomon vs Salomon & Co. Ltd (1897). A company is considered as an artificial person or juridical person and therefore is not subject to *Zakat* because *Shariah* requirements are only obligations and rights imposed on a real person (al-Bazdawi, 483H; al-Nawawi, 676H, quoted from Zuryati et al., 2009).

Additionally, Adnan and Abu Bakar (2009) argue that the misconception of the definition, recognition and measurement of corporate *Zakat* results in practices leading to unfavourable consequences to the Muslim community as a whole. Consistent with the arguments and following Gambling and Karim, (1991), Haniffa and Hudaib, (2007), and Maali, et al. (2006), this study takes the view that business entities are not subject to the *Zakat* payment.

However, regardless of the circumstances, and consistent with previous studies (Adnan & Abu Bakar, 2009; Haniffa & Hudaib, 2007; Haniffa & Hudaib, 2004; Maali et al., 2003 & 2006; and Othman et al., 2009), this study proposes that business entities that pay *Zakat* should disclose the amount of *Zakat* paid during the accounting year. Since the ownership structure of a business is already reported in the annual report, the disclosure of the amount of *Zakat* paid would help Muslim shareholders to compute how much they need to pay for the return they received from the investment (Maali, et al., 2006). This could also help them to determine whether the company they invest in is subject to the *Zakat* payment. Additionally, SCCs who do not pay *Zakat* should inform their shareholders through annual reports of the reasons behind the decision of the management not to pay *Zakat*. Including this item in the checklist could provide a better insight of the current practice of Malaysian companies towards *Zakat* payment.

6.2.1.5 Employees (EYS)

Islam provides many human rights for the individual. In Islam, everyone should be treated in an appropriate way and with good manners because God has created all human beings as equals. As stated in the *Qur'an*:

O mankind! We created you from a single (pair) of a male and a female, and made you into nations and tribes, that ye may know each other (not that ye may despise each other). Verily the most honoured of you in the sight of Allah is (he who is) the most righteous of you. And Allah has full knowledge and is well acquainted (with all things). (Al-Hujraat, verse 13)

With regard to the relationship between employer and employees, as reported by Abdullah ibn Omar, *“the Messenger of Allah said: Pay the Labourer his wages before his sweat dries up”* (Ibn Majah) *“and Allah sets up an enemy against who does engage a labourer and enjoyed full labour from him but did not pay him his wages”* (Bukhari) (quoted from Karim, 2006, p. 299).

Accordingly, as stated in a *Hadith*:

Taking work from someone without paying him his legitimate wages is equivalent to pressing a free man into slavery and to produce goods from his labours, since, when he [the employer] has reaped the benefit without offering compensation, he has purchased the labourer and in effect has regarded him as a slave whom he has purchased.

(Bukhari)

Therefore, the management teams are enjoined to treat their employees justly. The welfare issue does not focus only on the needy people; it is also a main concern of Islam towards the employees and society as well. Any form of discrimination is not permitted in Islam. The company should practise an equal opportunities policy practice; management and employees should work together to ensure the success of their organisation. Employees are required to perform their duty to the best of their ability, as narrated by Rafi' ibn Khadij (quoted from Beekun 1997, p. 31): *“Allah’s messenger (pbuh) was asked what type of earnings was best and replied, ‘A man’s work with his hand and every business transaction which is approved’* and the management should give full concern on their employees’ wellbeing. Additionally, all mankind is also expected to act justly to others as prophet Muhammad (pbuH) said: *“None of you is a true believer until and unless he loves for his fellow man what he loves for his own self”*.

Consistent with the above arguments, this study proposes all information related to the employees such as appreciation, equal opportunities policy, welfare, housing benefit, safety and health, proper training and education, and rewards should therefore be disclosed in order for the current and prospective employees as well as the community to evaluate the seriousness of a company in protecting its employees as well as providing a conducive environment in the workplace.

6.2.1.6 Environment (NVRM)

Kamla et al. (2006) argue that the Islamic principles constitute a love of nature, and of people, the self and others, and an awareness of the importance of balance and the need to take reasoned actions to preserve this balance (p. 262). Apart from employees, management should also aware of their commitment towards the environment. They should not destroy or exploit the environment by damaging it for the benefit of the company. These activities are prohibited in Islam, as the *Qur'an* emphasises the importance of the environment several times.

Mischief has appeared on land and sea because of (the need) that the hands of men have earned that (Allah) may give them a taste of some of their deeds: in order that they may turn back (from Evil).

(Al-Room: 41)

Seest thou not that Allah sends down rain from the sky, and forthwith the earth becomes clothed with green? For Allah is He Who understands the finest mysteries, and is well-acquainted (with them).

(Al-Hajj: 63)

In Malaysia, environmental disclosure refers to the preparation of information, by the management, for use by multiple stakeholder groups, concerning the environmental status and performance of their companies or organizations (ACCA Malaysia, 2002, quoted by Abd Rahman, Yusoff & Wan Mohamed, 2009). Accordingly, environmental disclosure is a significant theme that should be disclosed in an organisation, specifically by SCCs, because it is an important element both for conventional and Islamic requirements.

6.2.1.7 Community (CTY)

Business entities are expected to engage in social activities with the community in order to create a conducive environment as well as showing their concern for a better life of the surroundings. As argued by Sayed Kotb: *“If any person spends the night hungry, the blame is shared by the community because it did not attempt to take care of him”* (quoted from Beekun, 1997, p. 55).

Since *Zakat* is only applicable to Muslim individuals, business entities are expected to contribute in terms of donations, charity, or contributions as means of sharing their wealth. Donations or charity funds, however, are paid on a voluntary basis, unlike *Zakat* which is an obligatory payment.

Donations are another means to help needy people to live a better way of life. As stated in the *Qur'an*:

If ye disclose (acts of) charity even so it is well, but if ye conceal them, and make them reach those (really) in need that is best for you: it will remove from you some of your (stains of) evil. And Allah is well acquainted with what ye do. (Al-Baqarah: 271)

Allah commands justice, the doing of good, and liberty to kith and kin, and He forbids all shameful deeds, and injustice and rebellion: He instructs you, that ye may receive admonition. (An.Nahl: 90)

Furthermore, God (*Allah*) has promised that those who willingly give as much as they please as voluntary alms or charity will receive benefits in return, as stated as below:

Satan threatens you with poverty and bids you to conduct unseemly. Allah promiseth you His forgiveness and bounties and Allah careth for all and He knoweth all things. He granteth wisdom to whom He pleaseth; and he to whom wisdom is granted receiveth indeed a benefit overflowing; but none will grasp the message but men of understanding.

(Al-Baqarah: 268-269)

Previous studies include this theme as one of management's commitment towards society because from the Islamic perspective the distribution of wealth is seen as an added value to the economy and in accordance with the *Shariah*.

6.2.1.8 Islamic Terminology and Values (ITV)

Annual reports of the SCC are expected to be different from those of other companies (Haniffa & Hudaib, 2004; Kamla, 2007). By inserting Islamic terminology and values in their annual reports, stakeholders could easily differentiate SCCs from other companies (Haniffa & Hudaib, 2004). Therefore, it is expected that companies would incorporate Islamic terminology and values in their reports if they want to be recognised as companies that are seriously committed to fulfilling the needs of the Muslim community.

Table 6.1 below lists the themes and 64 items included in this study, with reference to the previous studies; before the exclusion of items that were not applicable for all 3 groups of analysis.

Table 6.1: Research on Social Disclosure in an Islamic Context

Theme	Items	Authors	Research Setting
Underlying Philosophy and Values (UPV)	<ol style="list-style-type: none"> 1. Commitments in operating within <i>Shariah</i> principles/ideals 2. Commitments in providing returns within <i>Shariah</i> principles 3. Focus on maximising shareholders' returns 4. Current directions in serving the needs of Muslim community 5. Future directions in serving the needs of Muslim community 6. Commitments to engage only in permissible investment activities 7. Commitments to engage only in permissible financing activities 8. Commitments to fulfil contract via contract (<i>Uqud</i>) statement 	<p>Haniffa & Hudaib (2007); Haniffa & Hudaib (2004)</p> <p>Kamla (2007)</p>	<p>Islamic Financial Institution</p> <p>Arab Middle East</p>
<i>Shariah</i> Supervisory Board (SSB)	<ol style="list-style-type: none"> 1. Name of members 2. Pictures of members 3. Remuneration of members 4. Report signed by all members 5. Number of meetings held 6. Examination of all business transactions ex ante and ex post 7. Examination of a sample of business transactions ex ante and ex post 8. Specific and detailed report of defects in product; 9. Recommendation to rectify defects in products 10. Action taken by management to rectify defects in product 11. Distribution of profits and losses comply to <i>Shariah</i> 	<p>Haniffa & Hudaib (2007); Haniffa & Hudaib (2004); Maali et al. (2003); Maali et al. (2006); Grais & Pellegrini (2006)</p>	<p>Islamic Financial Institution</p>

Theme	Items	Authors	Research Setting
Product or service (PS)	<ol style="list-style-type: none"> 1. Discussion of major types of product 2. Glossary/definition of products 3. Pictures of major types of product 4. Improvement in product quality 5. Improvement in customer service 6. Distribution of marketing 7. Introduced new product 8. Approval <i>ex ante</i> by SAC for new product 9. Basis of <i>Shariah</i> concept in approving new product 	<p>Haniffa & Hudaib (2007); Haniffa & Hudaib (2004); Maali et al. (2003); Maali et al. (2006)</p> <p>Kamla (2007)</p> <p>Othman & Md Thani (2010); Othman et al. (2009)</p>	<p>Islamic Financial Institution</p> <p>Arab Middle East</p> <p><i>Shariah</i>-approved companies in Bursa Malaysia</p>
Zakat (ZKT)	<ol style="list-style-type: none"> 1. Entity liable for <i>Zakat</i> 2. Amount paid for <i>Zakat</i> 3. Sources of <i>Zakat</i> 4. Uses/beneficiaries of <i>Zakat</i> 5. Balance of <i>Zakat</i> not distributed - amount 6. Reasons for balance of <i>Zakat</i> 7. SSB attestation that sources and uses of <i>Zakat</i> are in accordance with <i>Shariah</i> 8. <i>Zakat</i> to be paid by individuals - amount 	<p>Adnan & Abu Bakar (2009); Haniffa & Hudaib (2007); Haniffa & Hudaib (2004); Maali et al. (2003); Maali et al. (2006)</p> <p>Othman and Md Thani (2010); Othman et al. (2009)</p>	<p>Islamic Financial Institution</p> <p><i>Shariah</i>-approved companies in Bursa Malaysia</p>

Theme	Items	Authors	Research Setting
Employees (EYS)	<ol style="list-style-type: none"> 1. Employees' appreciation 2. Equal opportunities policy 3. Employees' welfare 4. Training: <i>Shariah</i> awareness 5. Training: other 6. Training: monetary 7. Reward for employees 8. Employees' Safety & Health 9. Housing benefit 	<p>Haniffa & Hudaib (2007); Haniffa & Hudaib (2004); Maali et al. (2003); Maali et al. (2006)</p> <p>Kamla (2007)</p> <p>Othman & Md Thani (2010); Othman et al. (2009)</p>	<p>Islamic Financial Institution</p> <p>Arab Middle East</p> <p><i>Shariah</i>-approved companies in Bursa Malaysia</p>
Environment (NVRM)	<ol style="list-style-type: none"> 1. Environmental policies 2. Commitment towards environmental activities 	<p>Kamla (2007)</p> <p>Maali et al. (2003); Maali et al. (2006);</p> <p>Othman & Md Thani (2010); Othman et al. (2009)</p>	<p>Arab Middle East</p> <p>Islamic Financial Institution</p> <p><i>Shariah</i>-approved companies in Bursa Malaysia</p>

Theme	Items	Authors	Research Setting
Community (CTY)	<ol style="list-style-type: none"> 1. Women's branch 2. Creating job opportunities 3. Support for organisation that provide benefits to society 4. Participation in govt. social activities 5. Sponsoring of community activities 6. Commitment to social role 7. Conferences on Islamic economics 8. Uses of charity 9. Student/recruitment scheme 	<p>Baydoun & Willet, 2000; Haniffa & Hudaib (2007); Haniffa & Hudaib (2004); Maali et al. (2003); Maali et al. (2006)</p> <p>Kamla (2007)</p> <p>Othman & Md Thani (2010); Othman et al. (2009)</p>	<p>Islamic Financial Institutions</p> <p>Arab Middle East</p> <p><i>Shariah</i>-approved companies in Bursa Malaysia</p>
Islamic Terminology & Value (ITV)	<ol style="list-style-type: none"> 1. Quote from <i>Qur'an</i> 2. Pray for <i>Allah's</i> guidance (<i>Hidayah</i>) 3. God Willing (<i>Insha Allah</i>) 4. Thanks to <i>Allah</i> (<i>Alhamdulillah</i>) 5. Greetings (<i>Salam</i>) 6. In the name of <i>Allah</i> (<i>Bismillah</i>) 7. Grace of <i>Allah</i> (<i>Rahmah</i>) 8. Plead for <i>Allah's</i> reward (<i>Redha' Allah</i>) 	<p>Haniffa & Hudaib (2004)</p> <p>Kamla (2007)</p>	<p>Islamic Financial Institution</p> <p>Arab Middle East</p>

6.2.2 Modification to the Islamic Social Disclosure Checklist

In the process of constructing the Islamic social disclosure (ISCR) checklist, it has been necessary to make some amendments in order to be consistent with the context and research settings of the present study. Therefore, once the disclosure checklists developed by earlier researchers were reviewed and the relevant information taken into consideration, items that could increase confidence and capture what the study intended to capture were selected and tested (Healy & Palepu, 2001). This step is important to ensure that each category will fulfil the requirements of face validity.

To quote from Krippendorff, 2004, p. 313:

Face validity is “obvious” or “common truth”. We appeal to face validity when we accept research findings because they “make sense” – that is, they are plausible and believable “on their face” – usually without having to give or expecting to an issue by a relative frequency with which the issue is mentioned in mass media. ... After subsequent empirical scrutiny, face validity may prove untenable, but it appears just right at the time the research is accepted.

Accordingly, the items included in the previous studies (before the disclosure checklist in Table 6.1 above emerged) have been refined. Assistance from the ICM *Shariah* Advisory Committee was obtained and ICM Quarterly bulletins were referred to. This is an important step to ensure the reproducibility validity of the study. Furthermore, to ensure the accuracy of the checklist, a specific classification procedure and scoring guide was developed. The process of developing and testing the coding scheme was consistent in order to control the problem of judgment error. Following Krippendorff (2004), to fulfil the construct validity requirements, all the possible themes and their extended items were listed. As the concept requires, they were measured and correlated with the proposed measure, and finally they were examined to determine whether each correlation supports what a theory predicts. Items that appeared to be irrelevant and insignificant during the first phase of analysis were dropped from the analysis.

A few items included in the previous studies are excluded from this study because the items are relevant only to Islamic financial institutions, are treated as independent variables in this study, or are items that are already under thorough analysis by the *Shariah* Advisory Committee (SAC), of the Securities Commission, Malaysia. Table 6.2 below list the details of excluded items and the reasons for excluding them.

Table 6.2: Details of Items Excluded from Checklist and Reasons for Excluding.

Authors	Items	Reasons for Excluding
Maali et al. (2003) Maali et al. (2006)	i. <i>Quard</i> Hassan ii. Late repayments and insolvent activities iii. <i>Haram</i> (unlawful) transactions	Subject to thorough analysis by <i>Shariah</i> Advisory Committee (SAC)
Haniffa & Hudaib (2007)	i. Board of Director and top management	Independent Variables
	ii. Debtors iii. No involvement in non-permissible activities iv. Involvement in non-permissible activities - % of profit v. Reason for involvement in non-permissible activities vi. Handling of non-permissible activities	Subject to thorough analysis by <i>Shariah</i> Advisory Committee (SAC),
Haniffa and Hudaib (2004)	i. Top management	Independent Variables
	ii. Audit (follow AAOIFI)	SAC
Othman & Md Thani (2010); Othman et al. (2009)	i. <i>Shariah</i> compliance status ii. Forbidden activities iii. Anti corruption activities iv. <i>Riba</i> activities v. <i>Gharar</i> vi. Policy of late Repayments and Insolvent Clients/Bad Debts written off	Subject to thorough analysis by <i>Shariah</i> Advisory Committee (SAC),
	vii. Current value balance sheet viii. Value added statement	Not relevant
	ix. Ownership structure (number of Muslim shareholders and its shareholdings)	Independent Variables
	x. Board structure (Muslim vs. non-Muslim)	

6.3 Research Design

This section discusses in detail the procedures selected in this study to answer the research question. It highlights on the method chosen to collect the data (content analysis), scoring method, sample selection, and analysis performed.

6.3.1 Content Analysis

Numerous research methods can be applied by researchers to analyse issues related to accounting information disclosure. However, for the purpose of examining the ISCR disclosure level in the annual reports of the selected companies, content analysis was considered to be the most appropriate way to capture the items identified earlier. The developed disclosure checklist could be accurately and thoroughly examined when the researcher was directly involved in an in-depth and comprehensive analysis of annual reports. Furthermore this method is also a well known and accepted method employed by previous researchers in disclosure studies (Chen & Jaggi, 2000; Cooke, 1998; Ho & Wong, 2001; Wallace & Naser, 1995).

To ensure that the data were relevant and unbiased, each full annual report for 2007 was read before making any decision (Cooke, 1998). The full reading was limited to one year, i.e. annual reports for 2007. This is because, according to Botosan (1997), firms' disclosure policies remain relatively constant over time; thus one year can be considered representative of a firm's policy. Additionally, to ensure consistency and stability, the disclosure checklists were completed by a single evaluator (the researcher) (Haniffa & Cooke, 2002; Krippendorff 2004; Weber, 1990).

6.3.2 Scoring Method

Various scoring methods could be applied when dealing with disclosure issues. There are basically four different scoring methods: a) a dichotomous method, b) a relative number of text units' method, c) a method from Beattie et al. (2004), and d)

a method developed by Beretta and Bozzolan (2004) (Suphakasem, 2008). Initially, protocols used in the study carried out by Marshall and Weetman (2007), which were based on categorical coding, were adopted for the purpose of scoring disclosure items and establishing the disclosure index. Categorical coding of each item will give ‘0’ points to the absence of a relevant disclosure, and ‘1’ or ‘2’ points to the presence of a relevant disclosure. The lower score of ‘1’ point reflects confirmation of the general disclosure and the higher ‘2’ points reflects more detailed and specific disclosure (p. 712). No penalty is imposed for any irrelevant items. The scores for each category are then added to derive a final score for each company. The disclosure index (ISCR) for each company is calculated as follows:

$$\text{ISCR}_j = \frac{\sum_{i=1}^{n_j} \mathbf{X}_{ij}}{\mathbf{n}_j}$$

where:

- \mathbf{n}_j = number of items expected for j^{th} firm,
- \mathbf{X}_{ij} = 1 if i^{th} item disclosed in general, 2 if i^{th} item disclosed in detail and 0 if i^{th} item not disclosed, so that $0 \leq \text{ISCR}_j \leq 2$.

However, from the initial stage of content analysis carried out for 20 companies, it was apparent that ICM and Islamic social disclosure in annual reports were still in the infancy stage; therefore the methodology used in Haniffa and Cooke’s (2002) study, which is essentially based on dichotomies, was followed. In this scheme, an item scores one if it is disclosed and zero if it is not disclosed. The scores for each category were then added and a final score for each company was derived.

Finally, the disclosure index (ISCR) for each company was calculated as follows:

$$\text{ISCR}_j = \frac{\sum_{i=1}^{n_j} \mathbf{X}_{ij}}{\mathbf{n}_j}$$

where:

\mathbf{n}_j = number of items expected for j^{th} firm,

\mathbf{X}_{ij} = 1 if i^{th} item disclosed, 0 if i^{th} item not disclosed, so that $0 \leq \text{ISCR}_j \leq 1$.

6.3.3 Sample Selection and Data Sources

In this disclosure study, annual reports for companies listed on Bursa Malaysia's main board in 2007 were examined. The annual report for the year 2007 was chosen for examining ISCR because a number of important events took place prior to 2007 as well as in 2007 itself that offered many benefits to companies listed as *Shariah*-compliant companies. For example, in August 2006, the Malaysian International Islamic Financial Centre (MIFC) was launched; several new tax incentives were announced to support the industry in the 2007 budget, and the Islamic Fund in 2007 consisted of 134 companies compared to only 2 companies in 1993 (see Table 3.4 of Chapter 3 for a more detailed explanation). Furthermore, on 14 December 2006, Bursa Malaysia Securities Bhd imposed a new obligation on corporations to disclose corporate social activities in their annual reports on or after 31 December 2007. Certain items included in disclosures of corporate social activities are also items that are important to be included according to the Islamic social disclosure.

The study used the sample of companies and selection criteria as described in Section 5.3. The total number of companies available for ISCR analysis was 224 companies, of which 126 companies were identified as SCCs, 65 companies were in the SNC category, and 33 companies were categorised under DLL. Table 6.3 below presents the number of companies included in this study.

Table 6.3: Companies Included in the Study by Industry and Status

Industry \ Status	Shariah Compliant (SCC)	Shariah Non-Compliant (SNC)	Listed & De-Listed (DLL)	TOTAL
Consumer Products	18	8	5	31
Construction	11	7	3	21
Industrial Products	47	20	5	72
Plantation	12	4	2	18
Properties	15	4	12	31
Trading & Services	20	16	3	39
Others	3	6	3	12
TOTAL	126	65	33	224

Legend:

SCC defined as companies with core activities that are not contrary to *Shariah* principles and which fulfilled the criteria set by the *Shariah* Advisory Committee (SAC); SNC defined as companies involved in activities non-permitted according to *Shariah*; DLL defined as companies that were listed but later de-listed as SCC companies or vice versa throughout the period of study;

6.3.4 Data Analysis

In order to empirically examine the presence or absence of each item for each of the ISCR themes for 224 companies, descriptive statistics were obtained through the content analysis. Additionally, it was also important to ensure that the ISCR score was able to represent the level of disclosure of selected companies. Therefore, correlation tests (parametric and non-parametric tests) between the eight themes and total ISCR score were carried out to examine the relationship between them. The analysis was used in this study to describe the strength and direction of the linear relationship between groups of variables (Pallant, 2007). When the value of the correlation coefficient nears 1.00 (more than 0.7), it represents a strong relationship, and vice versa.

The following section discusses in detail the descriptive statistics revealed from the content analysis, in which the presence or absence of each items for each group is presented, and also sets out the results from the correlation tests performed.

6.4 Empirical Findings and Discussion on the Extent of ISCR

As stated earlier, this thesis applied the methods of content analysis to examine the items relevant to Islamic social disclosure. The following section discusses the key findings of each theme; it provides details of the score obtained for each item for the three different categories of companies: SCC, SNC, and DLL. Detailed results related to the themes are presented in **Appendix 6A**.

6.4.1 Underlying Philosophy and Values (UPV)

Under this theme, it can be seen that more than 30% of the companies under SCC and SNC stated their commitment to focus on maximising shareholders' return in their vision and mission statement. Contrarily, only 18% from the DLL group mentioned this commitment. Of 126 companies listed as SCC, only 2 companies stated their commitments to operating within *Shariah* principles; 1 company stated their commitment to providing returns within *Shariah* principles and their current and future directions to serve the needs of the Muslim community. The results also revealed that none of the companies, specifically the SCC, stated their commitment to engage only in permissible investment and financing activities. Similarly, no company committed to fulfil the contract via the *Uqud* item. One possible reason for this situation is that companies in Malaysia are not set up to cater for the needs of the Muslim community only. Because Malaysia is a multicultural country with various ethnicities, Malaysian companies tend to state in their mission and vision statement that their commitment is to manage business for the benefit of all Malaysians.

6.4.2 *Shariah* Supervisory Board (SSB)

Surprisingly, out of 126 companies listed as SCC, only 1 company had set up a SSB within the company and none of the companies disclosed any other items under this theme. The result suggests that SCC companies are still not aware of the importance of incorporating a SBB in their organisations.

6.4.3 Products and/or Services (PS)

Almost all companies (regardless of their status) discussed their major types of products (95%); had pictures of their products (70%); stated their commitment to improving product quality (69%), to improving customer service (63%) and to improving marketing strategy (78%). This suggests that the management was fully aware of the importance of this information being shared with stakeholders. However, not many provided a glossary or defined their products/services (29%), and only 38% of the companies introduced new products/services during the year 2007. In consequence of the fact that not many introduced new products in year 2007, none of the companies stated anything about the approval of SAC/SSB for new products or services based on *Shariah*. These findings are consistent with the SSB theme, where it was seen that only one Malaysian company had set up a SSB in its organisation and therefore, under this theme, it is evident that firms could not engage the SSB team to approve the newly introduced products and/or services because they did not have such a team.

6.4.4 Zakat (ZKT)

The descriptive statistics show that only 4 companies listed as SCC and 2 companies under DLL disclosed the information related to the *Zakat* payment in year 2007. All other items under this theme were not reported by the firms. The possible reasons for these findings are: a) management was aware that *Zakat* is not a compulsory payment to be made by a company (they could refer to the court case mentioned earlier, i.e. BIMB vs. Adnan bin Omar (1994) to convince the shareholders of their action); b) the shareholders had decided in the annual general meeting that *Zakat* obligations pass to them as individuals once they receive the dividend or return; and c) to avoid unfavourable consequences to the Muslim community as a whole due to the misconception of the definition, recognition, and measurement of corporate *Zakat*. However, companies that paid *Zakat* disclosed the information in order to help their Muslim shareholders to compute the obligatory amount they need to pay individually.

6.4.5 Employees (EYS)

A number of companies disclosed their commitment towards their employees' welfare (53%), employees' training (54%), and employees' safety and health (50%). Some disclosed their appreciation towards employees (37%); reward for employees (26%); and equal opportunities policy (20%). However, the results also make clear that in terms of employees' appreciation, equal opportunities policy, employees' welfare, and employees' safety and health, SNC companies disclosed information to a slightly lower extent than the average values. Nevertheless, the results also reveal that one company, belonging to the SNC group, had provided training related to *Shariah* awareness for its employees. Items such as training related to monetary and housing benefits appeared to be less important to the sample firms.

6.4.6 Environment (NVRM)

From the findings, on average, most firms disclosed their commitment towards protecting the environment, through environmental policies (54%), and commitment towards environmental activities (57%). However, from the table, it can be seen that SNC and DLL companies had slightly lower levels of disclosure than SCC and the average value.

6.4.7 Community (CTY)

The results demonstrate that, in most instances, the sample firms were concerned with items such as the commitment of companies towards providing benefits to society (63%); participating in government social activities (49%); sponsoring community activities (62%); commitment to social roles (71%); and other charity activities (60%). Creating job opportunities and student/recruitment schemes were of less concern. Results also reveal that companies rarely disclose items related to creating a women's branch or contributing to conferences related to Islamic economics.

6.4.8 Islamic Terminology and Values (ITV)

In general, items under this theme could not be found in the companies' annual reports, with the exception of greetings (*Salam*) which were found in 2 companies. Consistent with what has been proposed by Haniffa and Hudaib (2004) and Kamla (2007), the insertion of ITV could differentiate SCC from other companies. However, from the findings, it is evident that the annual reports of companies in Malaysia, specifically the SCC, were not much different than their counterparts. Possible explanations could be related to the persons responsible for preparing the annual reports; a) they prepare the annual reports based on a standard format; and b) it is probable that most of them are non-Muslims.

From the findings above, not all items listed on the ISCR checklist were applicable for the companies selected in this study. For the purpose of detailed analyses, consistent with Suphakasem (2007, p. 89), items not applicable to any of the three groups have been excluded from further analysis unless any one is important to be included as a benchmark or can be used as part of a general framework for Islamic social disclosure studies. This was necessary to ensure that no company was penalised for not disclosing information which was irrelevant to them. However, items such as *Zakat*, SSB, and ITV are included in the scoring because they are important items acting as a benchmark for the whole construct. Therefore, instead of 64 items, in this study the ISCR considered only 35 items that had been reported by at least one company as presented in **Appendix 6B**.

Accordingly, Table 6.4 below reports the descriptive statistics for each theme after excluding the irrelevant items. This study has found that, on average, the Product and Services theme scored the highest for disclosure (63%), followed by the Environment theme (55%), Community theme (39%), and Employees theme (27%). Not many disclosed items related to UPV (6.7%) and *Zakat* (3%), and hardly any disclosed SSB (0.5%) and ITV (0.9%) themes. The findings suggest that the items related to UPV, *Zakat*, SSB, and ITV themes were disclosed at the very minimum level.

Referring to the ‘minimum’ and ‘maximum’ columns in the table below, the 0 value in the ‘minimum’ column indicates that there were companies that did not disclose any information under each of the categories. However, there were also companies that disclosed all the items under SSB, PS, ZKT, NVRM and ITV themes because the ‘maximum’ column of each theme reveals a value of 1.

Table 6.4: Descriptive Statistics for Continuous Variables of Categories in ISCR & ISCR

Variable	Labels	n	Mean	Median	Std Deviation	Min	Max
Islamic Social Disclosure Score	ISCR	224	0.340	0.355	0.184	0.00	0.74
Underlying Philosophy & Value	UPV	224	0.067	0.007	0.110	0.00	0.80
<i>Shariah</i> Supervisory Board	SSB	224	0.005	0.000	0.067	0.00	1.00
Product & Services	PS	224	0.631	0.710	0.274	0.00	1.00
<i>Zakat</i>	ZKT	224	0.027	0.000	0.162	0.00	1.00
Employees	EYS	224	0.273	0.220	0.251	0.00	0.78
Environment	NVRM	224	0.556	1.000	0.488	0.00	1.00
Community	CTY	224	0.390	0.440	0.288	0.00	0.89
Islamic Terminology & Value	ITV	224	0.009	0.000	0.094	0.00	1.00

In addition to the above results, the following table (Table 6.5 Panel A and B) reports results generated from the correlation analysis between ISCR and the 8 themes. Panel A presents the Pearson correlation results and Panel B presents the output from Spearman’s *rho* correlation analysis. The aim here was to assess the reliability of the index. Both parametric and non-parametric correlation analyses suggest the same results with regards to the direction of the relationship as well as strength of the relationships.

Table 6.5: Correlation Analysis between ISCR and the 8 Categories of ISCR

Panel A: Pearson Correlation between the 8 categories of ISCR and ISCR

	ISCR	UPV	SSB	PS	ZKT	EYS	NVRM	CTY	ITV
ISCR	1								
UPV	.391**	1							
Sig (2-tailed)	.000								
SSB	.084	.324**	1						
Sig (2-tailed)	.211	.000							
PS	.713**	.295**	.056	1					
Sig (2-tailed)	.000	.000	.405						
ZKT	.197**	.150*	-.011	.079	1				
Sig (2-tailed)	.003	.025	.869	.239					
EYS	.832**	.247**	.015	.385**	.164*	1			
Sig (2-tailed)	.000	.000	.821	.000	.014				
NVRM	.680**	.097	-.076	.307**	.095	.576**	1		
Sig (2-tailed)	.000	.148	.254	.000	.158	.000			
CTY	.893**	.278**	.091	.522**	.161*	.643**	.568**	1	
Sig (2-tailed)	.000	.000	.176	.000	.016	.000	.000		
ITV	.096	.028	-.006	.079	-.016	.023	.087	.092	1
Sig (2-tailed)	.154	.672	.925	.237	.815	.728	.196	.168	

Panel B: Spearman's rho Correlation between the 8 categories of ISCR and ISCR

	ISCR	UPV	SSB	PS	ZKT	EYS	NVRM	CTY	ITV
ISCR	1								
UPV	.382**	1							
Sig (2-tailed)	.000								
SSB	.089	.142**	1						
Sig (2-tailed)	.184	.033							
PS	.692**	.302**	.060	1					
Sig (2-tailed)	.000	.000	.372						
ZKT	.201**	.183**	-.011	.077	1				
Sig (2-tailed)	.003	.006	.869	.249					
EYS	.844**	.238**	.020	.380**	.143*	1			
Sig (2-tailed)	.000	.000	.771	.000	.033				
NVRM	.671**	.109	-.076	.293**	.095	.596**	1		
Sig (2-tailed)	.000	.105	.257	.000	.155	.000			
CTY	.894**	.274**	.101	.506**	.172**	.670**	.555**	1	
Sig (2-tailed)	.000	.000	.130	.000	.010	.000	.000		
ITV	.105	.037	-.006	.085	-.016	.033	.087	.096	1
Sig (2-tailed)	.117	.578	.925	.206	.815	.619	.195	.153	

** Correlation is significant at the 0.01 level * Correlation is significant at the 0.05 level

Legend:

- ISCR represents level of disclosure based on Islamic Perspective Accounting Information.
- UPV represents the level of disclosure based on underlying Philosophy and Value information.
- SSB represents the existence of *Shariah* Supervisory Board.
- PS represents level of disclosure on Product or Service information.
- ZKT represents level of disclosure on *Zakat* information.
- EYS represents level of disclosure on Employees' information.
- NVRM represents level of disclosure on Environmental information.
- CTY represents level of disclosure on Community Activities information.
- ITV represents level of disclosure on Islamic Terminology & Value information.

Table 6.5 above demonstrates that the direction of all the 8 themes is positive with ISCR. However, only 6 themes are found to be highly significantly correlated with ISCR, namely; Underlying Philosophy and Values (UPV), Products and/or Services, *Zakat* (ZKT), Employees (EYS), Environment (NVRM) and Community (CTY).

However, even though the findings are statistically insignificant, the results suggest that SSB has a negative relationship with ZKT, NVRM and ITV; and ZKT has a negative association with the ITV. From the table, the findings also suggest that ISCR has a strong relationship with PS, NVRM, EYS and CTY; a medium relationship with UPV; a weak correlation with ZKT; and an insignificant relationship with SSB and ITV. Overall, the results above show that the level of disclosure of each theme varies and therefore is worthy of analysis. It also supports the ability of the index to measure the level of ISCR across the sample.

6.5 Conclusion

This chapter has described the procedures needed to develop the disclosure checklist and disclosure index. Discussions of the development of items and themes included in the disclosure checklist and arguments related to each theme have been presented. Issues related to the disclosure checklists and disclosure scores have also been discussed in detail. Since there are still a limited number of empirical studies on items that should be disclosed by *Shariah*-compliant companies, it appears reasonable to redevelop the disclosure checklist based on what is required by *Qu'ran, Hadith, Ijtihad and Qiyas*, guidelines prepared by the *Shariah* Advisory Council of Securities Commission, Malaysia, and previous empirical studies and theoretical perspectives related to disclosure issues specifically related to social disclosure in an Islamic context.

In addition, the chapter has provided a detailed explanation of sample selection and data sources; it has discussed the measurement of dependent and independent variables; and it has reported the analyses employed.

As stated in FRS101: Presentation of Financial Statements in Financial Reporting Standards for Malaysia, sufficient information should be provided to the users for them to appreciate the position and performance of companies as well as an evidence of the management's demeanour in managing firms resources. It is believed that, when the Malaysian capital market introduced a platform for socially responsible and ethical investments, stakeholders involved in those kinds of investments would expect that the information provided by the *Shariah*-compliant companies (SCCs) would be able to assist them in making economic-religious decisions.

However, the results obtained from the analyses demonstrate that the Islamic social disclosure (ISCR) in the annual reports of Malaysian public listed companies is still relatively under-developed. The results are consistent with previous studies (Haniffa & Hudaib 2007; Maali et al., 2006; Othman & Md Thani, 2010). Out of 64 possible items identified at the initial stage, (that is, identified in Islamic social disclosure studies carried out in other research settings) a total of only 35 items could be included in the final analyses in the present study. The scores of the different groups of companies (SCC, SNC and DLL) for different themes of disclosure showed that disclosure of items related to Islamic social disclosure tended to be similar across the sample, and items related to some more obvious Islamic themes, such as Underlying Philosophy and Values (UPV), *Zakat* (ZKT), *Shariah* Supervisory Board (SSB), and Islamic Terminology and Value (ITV), were disclosed at the very minimum level. The univariate results in Section 7.7.2 later will provide further empirical evidence on whether there is any significant difference between the three groups in terms of disclosure.

In summary, this study takes the view that if management, specifically those from the SCCs wish to differentiate their firms from others, disclosure of items related to ZKT, SSB, UPV and ITV themes, could be very useful. Social information disclosed in the Islamic context would be very relevant to stakeholders who wish to demonstrate their accountability towards God (*Allah*) and society. Sufficient information would help the shareholders to pay *Zakat*, and assure that their investments in are in accordance with the *Shariah* principles. Nevertheless, the

disclosure of themes related to the Product and Services (63%); Environment (55%), Community (39%), and Employees (27%); should also be of high concern because the descriptive statistics showed that attention to these items could be further improved to show the management's social commitment.

Chapter 7 continues with discussion on the development of hypotheses related to the factors expected to influence management's decision to disclose information in the Islamic context and the findings revealed by parametric and non-parametric tests, as well as the results from regression equations in which the multiple relationships between variables are presented.

Appendix 6A:

The ISCR Score According to Individual Items, Themes and Status

Items of Disclosure	Status of Company						TOTAL
	SCC (n=126)		SNC (n= 65)		DLL (n=33)		n = 224
	n	%	n	%	n	%	%
Underlying philosophy and values (vision and mission statement)							
Commitments in operating within <i>Shariah</i> principles/ideals	2	1.59	0	0.00	0	0.00	0.89
Commitments in providing returns within <i>Shariah</i> principles	1	0.79	0	0.00	0	0.00	0.45
Focus on maximising shareholders returns	41	32.54	22	33.85	6	18.18	30.80
Current directions in serving the needs of Muslim community	1	0.79	0	0.00	0	0.00	0.45
Future directions in serving the needs of Muslim community	1	0.79	0	0.00	0	0.00	0.45
Commitments to engage only in permissible investment activities	0	0.00	0	0.00	0	0.00	0.00
Commitments to engage only in permissible financing activities	0	0.00	0	0.00	0	0.00	0.00
Commitments to fulfil contract via contract (<i>Uqud</i>) statement	0	0.00	0	0.00	0	0.00	0.00
Shariah Supervisory Board							
Name of members	1	0.79	0	0.00	0	0.00	0.45
Pictures of members	0	0.00	0	0.00	0	0.00	0.00
Remuneration of members	0	0.00	0	0.00	0	0.00	0.00
Report signed by all members	0	0.00	0	0.00	0	0.00	0.00
Number of meetings held	0	0.00	0	0.00	0	0.00	0.00
Examination of all business transactions <i>ex ante</i> and <i>ex post</i>	0	0.00	0	0.00	0	0.00	0.00
Examination of a sample of business transactions <i>ex ante</i> and <i>ex post</i>	0	0.00	0	0.00	0	0.00	0.00
Specific and detailed report of defects in product;	0	0.00	0	0.00	0	0.00	0.00
Recommendation to rectify defects in product	0	0.00	0	0.00	0	0.00	0.00
Action taken by management to rectify defects in product	0	0.00	0	0.00	0	0.00	0.00
Distribution of profits and losses comply to <i>Shariah</i>	0	0.00	0	0.00	0	0.00	0.00

Items of Disclosure	Status of Company						TOTAL
	SCC (n=126)		SNC (n= 65)		DLL (n=33)		n = 224
	n	%	n	%	n	%	%
Product or service:							
Discussion of major types of product	119	94.44	63	96.92	31	93.94	95.09
Glossary/definition of products	33	26.19	22	33.85	9	27.27	28.57
Pictures of major types of product	93	73.81	42	64.62	22	66.67	70.09
Improvement in product quality	88	69.84	43	66.15	24	72.73	69.20
Improvement in customer service	83	65.87	40	61.54	19	57.58	63.39
Distribution of marketing	100	79.37	51	78.46	23	69.70	77.68
Introduced new products	50	39.68	25	38.46	11	33.33	38.39
Approval <i>ex ante</i> by SAC for new products	0	0.00	0	0.00	0	0.00	0.00
Basis of <i>Shariah</i> concept in approving new products	0	0.00	0	0.00	0	0.00	0.00
Zakat:							
Entity liable for <i>Zakat</i>	0	0.00	0	0.00	0	0.00	0.00
Amount paid for <i>Zakat</i>	4	3.17	0	0.00	2	6.06	2.68
Sources of <i>Zakat</i>	0	0.00	0	0.00	0	0.00	0.00
Uses/beneficiaries of <i>Zakat</i>	0	0.00	0	0.00	0	0.00	0.00
Balance of <i>Zakat</i> not distributed-amount	0	0.00	0	0.00	0	0.00	0.00
Reasons for balance of <i>Zakat</i>	0	0.00	0	0.00	0	0.00	0.00
SSB attestation that sources and uses of <i>Zakat</i> according to <i>Shariah</i>	0	0.00	0	0.00	0	0.00	0.00
<i>Zakat</i> to be paid by individuals-amount	0	0.00	0	0.00	0	0.00	0.00
Employees:							
Employees' appreciation	49	38.89	21	32.31	12	36.36	36.61
Equal opportunities policy	28	22.22	10	15.38	6	18.18	19.64
Employees' welfare	71	56.35	29	44.62	18	54.55	52.68
Training: <i>Shariah</i> awareness	0	0.00	1	1.54	0	0.00	0.45
Training: other	66	52.38	35	53.85	19	57.58	53.57
Training: monetary	1	0.79	0	0.00	1	3.03	0.89
Reward for employees	35	27.78	15	23.08	7	21.21	25.45
Employees' Safety & Health	62	49.21	31	47.69	18	54.55	49.55
Housing	8	6.35	5	7.69	3	9.09	7.14
Environment:							
Environmental policies	74	58.73	32	49.23	16	48.48	54.46
Commitment towards environmental activities	76	60.32	34	52.31	17	51.52	56.70

Items of Disclosure	Status of Company						TOTAL
	SCC (n=126)		SNC (n= 65)		DLL (n=33)		n = 224
	n	%	n	%	n	%	%
Community							
Women's branch	0	0.00	1	1.54	0	0.00	0.45
Creating job opportunities	29	23.02	16	24.62	8	24.24	23.66
Support for organisation that provide benefits to society	81	64.29	37	56.92	23	69.70	62.95
Participation in govt. social activities	62	49.21	32	49.23	15	45.45	48.66
Sponsor community activities	78	61.90	40	61.54	20	60.61	61.61
Commitment to social role	91	72.22	46	70.77	23	69.70	71.43
Conferences on Islamic economics	3	2.38	1	1.54	2	6.06	2.68
Uses of charity	76	60.32	37	56.92	21	63.64	59.82
Student/recruitment scheme	23	18.25	11	16.92	6	18.18	17.86
Islamic Terminology & Values							
Quote from <i>Qur'an</i>	0	0.00	0	0.00	0	0.00	0.00
Pray for Allah's guidance (<i>Hidayah</i>)	0	0.00	0	0.00	0	0.00	0.00
God Willing (<i>Insha Allah</i>)	0	0.00	0	0.00	0	0.00	0.00
Thanks to Allah (<i>Alhamdulillah</i>)	0	0.00	0	0.00	0	0.00	0.00
Greetings (<i>Salam</i>)	2	1.59	0	0.00	0	0.00	0.89
In the name of Allah (<i>Bismillah</i>)	0	0.00	0	0.00	0	0.00	0.00
Grace of Allah (<i>Rahmah</i>)	0	0.00	0	0.00	0	0.00	0.00
Plea for Allah's reward (<i>Redha' Allah</i>)	0	0.00	0	0.00	0	0.00	0.00

Appendix 6B: ISCR Items Included for Further Analysis

No.	Items of Disclosure
Theme 1	Underlying Philosophy and Values (Vision and Mission Statement)
1	Commitments in operating within <i>Shariah</i> principles/ideals
2	Commitments in providing returns within <i>Shariah</i> principles
3	Focus on maximising shareholders returns
4	Current directions in serving the needs of the Muslim community
5	Future directions in serving the needs of the Muslim community
Theme 2	<i>Shariah</i> Supervisory Board
6	Existence of SSB (Yes or No)
Theme 3	Product or service:
7	Discussion of major types of product
8	Glossary/definition of products
9	Pictures of major types of product
10	Improvement in product quality
11	Improvement in customer service
12	Distribution of marketing
13	Introduction of new product/s
Theme 4	<i>Zakat</i>:
14	Disclose commitment of the company towards payment of <i>Zakat</i> (Yes or No)
Theme 5	Employees:
15	Employees' appreciation
16	Equal opportunities policy
17	Employees' welfare
18	Training: <i>Shariah</i> awareness
19	Training: other
20	Training: monetary
21	Reward for employees
22	Employees' Safety & Health
23	Housing
Theme 6	Environment:
24	Environmental policies
25	Commitment towards environmental activities
Theme 7	Community
26	Women's branch
27	Creating job opportunities
28	Support for organisation/s that provide benefits to society
29	Participation in government social activities
30	Sponsorship of community activities
31	Commitment to social role
32	Conferences on Islamic economics
33	Uses of charity
34	Student/recruitment scheme
Theme 8	Islamic Terminology & Value (ITV)
35	Disclosure of any phrase related to ITV

CHAPTER 7

DETERMINANTS OF ISLAMIC SOCIAL DISCLOSURE (ISCR) OF MALAYSIAN PUBLIC LISTED COMPANIES: EMPIRICAL FINDINGS

7.1 Introduction

A study by Cooke and Wallace (1990) on the level of disclosure in developing and developed countries found that the disclosure level of many developing countries is determined by external factors. In Malaysia, the Islamic Capital Market offers investments that comply with *Shariah* Law and it is expected that in the very rapid growth of the market, the additional layer of regulation, among other factors, might have an impact on the level of ISCR. Previously, Chapter 6 discussed the development of the ISCR checklist, reported the extent of Islamic social disclosure (ISCR) in the annual reports of Malaysian public listed companies, and revealed the descriptive results on the disclosure of items related to Islamic social disclosure. Accordingly, this chapter provides empirical evidence and answers for the following specific research questions:

SRQ6: To what extent do regulatory factors influence the level of ISCR of Malaysian companies?

SRQ7: What other factors are statistically significant in explaining the variations in the level of ISCR?

Accordingly, the remainder of the chapter is organized as follows: **Section 7.2** discusses the development of hypotheses related to the factors expected to influence the management's decision to disclose information to the stakeholders through annual reports in the Islamic context. **Section 7.3** explains in brief the sample selection and data sources; **Section 7.4** states the measurement of the dependent variable, and **Section 7.5** presents the measurement of independent variables. The analyses involved and test statistics employed are included in **Section 7.6**. **Section**

7.7 presents detailed results from both univariate and multivariate analyses performed to examine the association between Islamic social disclosure and additional regulatory factors, cultural factors, ownership-structure variables, and market-related variables when corporate characteristics are controlled. **Section 7.8** provides a detailed discussion of the empirical findings revealed in Section 7.7. Additionally, since very few studies looked into ISCR issues in Malaysian companies, **Section 7.9**, presents the empirical findings from hierarchical analyses performed on the same variables in the sub-categories of the ISCR. It is hoped that the findings could make possible some useful reflection into the area. Finally, **Section 7.10** summarises the findings and concludes the chapter where the implications and some of the limitations will be dealt with in more detail in Chapter 9.

7.2 Hypotheses Development for Variables Influencing ISCR

Most previous empirical disclosure studies have examined mandatory disclosure, voluntary disclosure, corporate disclosure, and corporate social reporting, among others. The studies, carried out in various different research settings, provide empirical evidence and accordingly assist this study in developing the hypotheses to examine the relationship between the level of ISCR disclosure and factors such as regulation, corporate characteristics, market-related factors, cultural effects, and ownership-structure. To ensure that the objective of generalisation could be achieved in this study, certain attributes such as age listing, level of diversification, multiple listing status, and qualification of finance director (as included in a study done by Haniffa and Cooke, 2002) are excluded from the analyses because these data are not included in the majority of the companies' annual reports. Consequently, only 13 variables under the factors in question are included when examining the variables in relation to the level of Islamic social disclosure of Malaysian companies. Corporate characteristics (size, profitability, business complexity, and gearing) are treated as control variables. The following sections contain the development of hypotheses related to additional regulatory factors, cultural factors, ownership structure factors, and market-related factors.

7.2.1 Hypothesis for Testing the Additional Regulatory Factor (ADR)

Since the research setting of this study is looking at the Islamic Capital Market in Malaysia, the first variable to be examined in this study is the factor of additional regulatory. Additional regulatory factor in this study refers to the additional regulations and requirements which companies that wish to be listed as SCC or are already listed as SCC need to comply with. The additional regulations are based on *Shariah Law*.

In line with Wallace and Naser (1995), this study explores whether the additional requirements and regulations imposed by the *Shariah Advisory Council* have a direct impact on the disclosure level of Malaysian companies, specifically on SCCs. It is an interesting issue and provides a meaningful analysis, so it should not be ignored.

Previous researchers argued that strong legal systems do influence the management's attitude towards disclosing more information (Archambault & Archambault, 2003; Doupink & Salter, 1995; Inchausti, 1997, Jaggi & Low, 2000). Doupink and Salter (1995) examined the legal systems of countries in terms of whether the countries were subject to code or common law. They performed correlation tests on nine clusters (USA/Canada, Britain, Costa Rica, Latin America, European, Arab/hybrid, Sweden/Finland, Germany, and Japan) and found significant relationships between legal systems and accounting systems. Archambault and Archambault (2003) performed a multinational test of determinants of corporate disclosure; one of the attributes included in their study was related to the legal system. Their findings were consistent with those of Doupink and Salter (1995); they found that legal systems constitute a variable influencing the level of disclosure. Analysis on Spanish firms carried out by Inchausti (1997) also found that legislation influences the level of disclosure. In Jaggi and Low's (2000) view, however, the information disclosed in the financial statements depends on the users' demand, and the information generation can be achieved without intervention from regulatory factors (p. 517).

Table 7.1 below summarizes the relationship between regulatory factors and the disclosure level found by previous studies:

Table 7.1: Findings from Empirical Studies on the Relationship between Regulatory Factors and Disclosure

Previous Studies	Variable (<i>Predicted Sign</i>)
	Regulatory Factors (+ve)
Archambault & Archambault 2003	+ve
Doupink & Salter 1995	+ve
Inchausti 1997	+ve
Jaggi & Low 2000	+ve

Legend: ns = not statistically significant

In the case of Malaysia, it is expected that companies listed as SCC, or those that have an intention to be listed as SCC, would disclose as much information as possible and, more specifically, information related to their commitment towards fulfilling social obligations in line with Islamic contexts. Apart from that, such disclosure could also indirectly attract prospective shareholders to invest in the company, and retain current shareholders as well. Information disclosed would also be part of evidence to the agencies that offers various incentives to them. Hence, the following hypothesis tests this expectation which, stated in the null form, is:

H₁: *Ceteris paribus*, there is no association between company status (as SCC) and the level of ISCR.

7.2.2 Hypotheses for Testing the Cultural Factors (CULT)

As previously discussed in Section 2.4.2.2, one of many factors expected to influence the level of disclosure is the cultural factor. Cultural factors have been extensively discussed and examined by previous studies on disclosure or social reporting. Some findings revealed significant positive relationships (Doupink & Salter, 1995; Hope, 2003; Othman & Md Thani, 2009; Sudarwan & Fogarty, 1996) but there were also some findings that reported no significant relationship (Haniffa & Cooke, 2002; Tsakumis, 2007).

Previous researchers examined various attributes to represent the measurement of cultural factors. Following Hofstede's (1980) dimensions of culture, Doupink and Salter (1995) applied individualism, power distance, uncertainty avoidance, and masculinity in order to test the relationship of culture and accounting practice. They found that common law countries had lower scores for uncertainty avoidance; Japan (a country with a lower disclosure score) had a higher level of masculinity; and Sweden and Finland (low in masculinity and low in uncertainty avoidance countries) were found to have a high level of disclosure.

However, in a slightly different measurement, Gray (1988) proposed a framework which links culture with the development of accounting systems in an international context. He argued that societal values have institutional consequences in the form of the legal system, political system, nature of capital markets, and pattern of corporate ownership (p. 5). He identified professionalism, uniformity, conservatism, and secrecy as important features of the culture dimensions. Following Gray's framework, Hope (2003) hypothesized that culture and legal origins have the same overall explanatory power for disclosure levels. He found that uncertainty avoidance and power distance are positively associated with disclosure, while individualism and masculinity are negatively associated with disclosure. Tsakumis (2007), however, found that there was no significant relationship between power distance and disclosure, although disclosure was positively associated with masculinity. Table 7.2 below summarises selected findings of previous studies.

Table 7.2: Findings from Empirical Studies on the Relationship between Cultural Dimensions and Disclosure Practice

Previous Studies	Variable (Sign)				
	Cultural Dimensions	POWER	UNC	INDIV	MASC
Gray's Framework	CONVTSM	n/a	+ve	-ve	-ve
	UNFRM	+ve	+ve	-ve	n/a
	PROFLSM	-ve	-ve	+ve	n/a
	SECR	+ve	+ve	+ve	-ve
Hope 2003		+ve	-ve	+ve	-ve
Sudarwan and Fogarty, 1996	CONVTSM	+ve	+ve	+ve	ns
	UNFRM	+ve	+ve	+ve	ns
	PROFLSM	ns	+ve	+ve	ns
	SECR	ns	-ve	-ve	ns
		CONVTSM	UNFRM	PROFLSM	SECR
Tsakumis, 2007		Insignificant			+ve

Legend:

POWER= Power Distance

UNC= Uncertainty

INDIV= Individualism

MASC = Masculinity

CONVTSM= Conservatism

UNFRM=Uniformity

PROFLSM = Professionalism

SECR= Secrecy

n/a = not applicable

ns = not statistically significant

Baskerville (2003), however, argued that Hofstede's cultural measurements are rejected by anthropology and sociology. Besides the problem of re-applying George Murdock's strategy which was valid for isolated societies, the attributes could also cause statistical and logical difficulties. In addition to the above discussions, Hamid et al. (1993) contended that religion, and specifically Islam, should also be integrated in the cultural discussion because it is obligatory for Muslims to follow Islamic principles in performing their daily activities, which include their attitude towards conducting business entities.

In order to be consistent with previous studies, especially studies that have been carried out in a Malaysian context, and Hamid et al.'s (1993) arguments, this study applies the measurement used by Haniffa and Cooke (2002). Haniffa and Cooke (2002) developed a cultural measurement based on the race and education of directors, as argued by the Hofstede-Gray theoretical framework on Malay and Chinese societal values. In their opinion, the race and education of people in

authority could affect disclosure policy and practice. Haniffa and Cooke (2002) tested the cultural factors with voluntary disclosure in 167 Malaysian companies during the year ended 1995, but found no significant relationship. However, in a different setting, Othman et al. (2009) examined whether the number of Muslim directors on the company's board influenced the Islamic social reporting of 56 top *Shariah*-approved companies listed on Bursa Malaysia. They found a significant positive relationship.

Consistent with Chapter 5 and following Haniffa and Cooke (2002) and Othman et al. (2009), this study examines whether cultural factors have a significant influence on the Islamic social disclosure (ISCR) of companies listed on the main board. This study however does not limit the sample to *Shariah*-compliant companies only, as Othman et al., 2009 did and applies Malay ethnicity as a proxy for culture.

Hence, the hypotheses in the null forms are:

H₂: *Ceteris paribus*, there is no association between the presence of a Malay chairperson and the level of ISCR.

H₃: *Ceteris paribus*, there is no association between the presence of a Malay managing director and the level of ISCR.

H₄: *Ceteris paribus*, there is no association between the proportion of Malay directors on the Board and the level of ISCR.

H₅: *Ceteris paribus*, there is no association between the proportion of Malay shareholdings and the level of ISCR.

H₆: *Ceteris paribus*, there is no association between Accounting and/or Business educational qualifications of Board members and the level of ISCR.

H₇: *Ceteris paribus*, there is no association between Islamic educational qualifications of Board members and the level of ISCR.

Based on Haniffa & Cooke (2002) and previous arguments, Table 7.3 below lists the predicted sign for each variable.

Table 7.3: Findings from Empirical Studies on the Relationship between Cultural Dimensions and Disclosure (Based on Haniffa & Cooke, 2002)

	Independent Variable (<i>Predicted Sign</i>)					
	Malay Chairperson <i>(-ve)</i>	Malay Managing Director <i>(-ve)</i>	Ratio of Malay Directors <i>(-ve)</i>	Ratio of Malay Shareholdings <i>(-ve)</i>	EDAB <i>(+ve)</i>	EDIS <i>(+ve)</i>
Haniffa & Cooke, 2002	ns	ns	ns	ns	ns	ns
Othman et al., 2009			+ve			

Legend:

EDAB = Qualification of Directors in Accounting/Business

EDIS = Qualification of Directors in Islamic Studies

ns = not statistically significant

7.2.3 Hypotheses for Testing the Ownership-structure Factors (OSV)

This section describes selected variables related to ownership structure which are incorporated in the study. These are the three variables believed to have a high impact on the level of disclosure because they seem to be associated with strong authority to influence the management and the daily operations of the whole organisation.

7.2.3.1 Institutional Investor (INSIV) and Top-ten Shareholders (TTSH)

Mercer (2004) argues that disclosure credibility tends to be higher when the management has few incentives to mislead investors and/or is perceived to be competent and trustworthy (p. 185). However, in general, institutional investors and top ten shareholders are expected to have significant control over the management

activities, as has been found in previous studies on the relationship between ownership-structure variables and earnings quality (EQ) (Bushee, 1998; Chung et al., 2002; Collins et al., 2003). In terms of disclosure issues, these groups could also exercise their rights or demand the management to disclose information deemed to be important to them. The presence of a large proportion of institutional investors and the existence of the dominant shareholders are capable of monitoring the management activities and influence the management to disclose more information relevant to them (Prado-Lorenzo et al., 2009; Shleifer & Vishny, 1997).

Debreceeny and Rahman (2005) examined the disclosure practice of companies via companies' internet reporting. They measured the ownership structure based on the proportion of shares outstanding that were deemed available for purchase in the public-equity markets by international investors, and their study revealed a significant positive relationship. Prado-Lorenzo et al. (2009) examined the effect of shareholder power and dispersed ownership structure on corporate social responsibility disclosure. Their arguments were based on Stakeholder Theory and they found that, in relation to corporate social reporting (CSR) practices as compared to the influence of government and creditors, shareholders' influence was quite limited. A study carried out in Saudi Arabia by Alsaeed (2006) hypothesized that firms with a higher percentage of common shares owned by institutional investors would be more likely to disclose more information. His findings were similar to those of Prado-Lorenzo et al. (2009); they revealed that firms with a large proportion of shares owned by the Saudi Government tended to disclose more, compared to firms with more dispersed ownership.

Huafang and Jianguo (2007) examined the impact of ownership structure (blockholder ownership, managerial ownership, state ownership, legal ownership, and foreign listings/shares ownerships) on voluntary disclosure of 559 listed companies in China. Their results showed that only blockholder ownership and foreign listings/shares ownerships had a statistically significant relationship with the level of corporate voluntary disclosure. The other three types of ownership were not related. Barako et al. (2006) also tested the variables and found a significant positive

relationship between institutional investors and disclosure and a significant negative association for top-twenty shareholders and disclosure. A study by Birt et al. (2006), however, found results inconsistent with those of Barako et al. (2006); they found that in companies with high levels of shares owned by top-twenty shareholders, these shareholders were able to influence the disclosure levels of voluntary segment items. Haniffa and Cooke (2002), Hossain et al. (1994), and Mohd Ghazali and Weetman (2006) examined the relationship between ownership structure and voluntary disclosure practice of Malaysian companies; they found mixed results, as set out in Table 7.4 below.

Table 7.4: Findings from Empirical Studies on the Relationship between Ownership-structure Factors and Disclosure

Previous Studies	Variables (<i>Predicted Sign</i>)	
	Institutional investors (+ve)	Top-ten shareholders (+ve)
Barako et al. 2006	+ve	-ve (top 20)
Birt et al. 2006		+ve
Haniffa & Cooke 2002	ns	+ve
Hossain et al. 1994		-ve
Mohd Ghazali & Weetman 2006		ns
	Ownership structure (+ve)	
Alsaed 2006	ns	
Debreceeny & Rahman 2005	+ve	
Huafang & Jianguo 2007	Mixed	
Naser et al. 2002	ns	
Prado-Lorenzo et al. 2009	Dominant shareholder: +ve	

Legend: ns = not statistically significant

Extending the prior studies, this study investigates the relationship of ownership structures with Islamic social disclosure (ISCR), and therefore the hypotheses in the null forms are:

H₈: *Ceteris paribus*, there is no association between a high proportion of shares held by institutional investors and the level of ISCR.

H₉: *Ceteris paribus*, there is no association between a high proportion of shares held by top-ten shareholders and the level of ISCR.

7.2.3.2 Family Members on Board (FMB)

Besides institutional investors and top-ten shareholders, the presence of a high proportion of family members on a company's Board could also be seen as an important indicator for the level of disclosure. They are able to influence the management's decision to disclose or hide certain information from the public. Previous studies (Arshad et al., 2009; Chau & Gray, 2002; Chen & Jaggi, 2000; Haniffa & Cooke, 2002; Ho & Wong, 2001; Mohd Ghazali & Weetman 2006) on this factor revealed mixed evidence for a relationship between the presence of family members and a company's disclosure practice.

Ho and Wong (2001) examined the disclosure practice of companies in Hong Kong and discovered that many firms there are dominated by family members. The family members were found to be not just actively involved in the business activities, but they also had direct control over the disclosure practices of the companies which, in fact, were more in line with fulfilling their own needs. Chen and Jaggi (2000) also examined the relationship between financial disclosures in Hong Kong and family control, and their results were consistent with those of Ho and Wong (2001) and Chau and Gray (2002), who found that the level of comprehensiveness of financial disclosure decreased in family-controlled firms.

In case of Malaysia, Haniffa and Cooke (2002) and Mohd Ghazali and Weetman (2006) found a significant negative relationship between the proportions of family members on boards and the level of disclosure. Arshad et al. (2009) examined the management's disclosure decisions during the adoption of related party disclosure as required by IFRS in 2007. They found no significant relationship between the presence of family members and disclosure, and they further argued that IFRS adoption alone is able to improve corporate transparency. Table 7.5 below summarises the findings of previous studies.

Table 7.5: Findings from Empirical Studies on the Relationship between the Presence of Family Members on the Board and Disclosure

Previous Studies	Variable (<i>Predicted Sign</i>)
	Family member on board (<i>-ve</i>)
Arshad et al., 2009	ns
Chau & Gray, 2002	-ve
Chen & Jaggi, 2000	-ve
Ho & Wong, 2001	-ve
Haniffa & Cooke, 2002	-ve
Mohd Ghazali & Weetman, 2006	-ve

Legend: ns = not statistically significant

The above studies, however, did not examine the disclosure level related to Islamic social disclosure (ISCR) issues. As such, the hypothesis in the null form is as the following:

H₁₀: *Ceteris paribus*, there is no association between a high proportion of family members on the Board and the level of ISCR.

7.2.4 Hypotheses for Testing the Market-related Factors (MRV)

Type of industry, auditor size, and foreign activities are the most significant market-related factors examined by previous researchers (Alsaed, 2006; Archambault & Archambault, 2003; Becker et al., 1998; Camfferman & Cooke, 2002; Haniffa & Cooke, 2002; Inchausti, 1997; Lopes & Rodrigues, 2007; Makhija & Patton, 2004; Naser et al., 2002; Othman et al., 2009; Wallace et al., 1994; Wallace & Naser, 1995; Watts & Zimmerman, 1986). This study extends previous research with empirical evidence that examines the relationship between the variables and the level of Islamic social disclosure.

7.2.4.1 Type of Industry (INDS)

In general, for the purpose of comparability, it can be assumed that different industries will disclose different types of information and that firms from the same industry will normally disclose similar information to third parties (Inchausti, 1997,

p. 56). Wallace et al. (1994) asserted that different industries adopt different disclosure practices; therefore disclosure levels differ across the industries. However, their findings were not significant when they examined the relationship between type of industry and level of disclosure in Spanish firms. On the other hand, Camfferman and Cooke (2002) argued that levels of disclosure in corporate annual reports may be different across an industry due to historical reasons, economic significance, and also the lead player's influential factors (p. 11). Their analysis of British and Dutch companies' disclosure levels for four different types of industries (trading, services, manufacturing, and conglomerate) revealed mixed results. Firms in the conglomerate sectors in both the Netherlands and Britain, as well as manufacturing firms in the U.K., were found to exhibit a significant positive relationship; however a significant negative relationship was found in trading companies in the Netherlands. Lopes and Rodrigues (2007) examined the relationship of the variables in Portuguese listed companies and their findings supported their prediction that the variables are significantly negatively related. Inchausti (1997) examined the impact of this variable on information disclosed by Spanish firms by dividing their sample into three groups: basic industry, manufacturing industry, and service industry. Their results, however, rejected the hypothesis of a relationship between the variables. Alsaeed (2006) examined the variables in Saudi Arabian firms; Makhija and Patton (2004) tested them in Czech firms; and Naser et al. (2002) tested them on Jordanian companies with similar results to those of Inchausti (1997); in all cases there was no significant relationship.

In the case of Malaysia, Othman et al. (2009) examined the determinants of Islamic Social Reporting of 56 *Shariah*-approved companies from 2004 to 2006. They included type of industry as one of the independent variables. In line with Alaseed (2006), Inchausti (1997), Makhija and Patton (2004), and Naser et al. (2002), they found no statistically significant relationship between the variables.

However, Haniffa and Cooke (2002) revealed mixed results. They examined differences in levels of the voluntary disclosure level for five different industries (industrial, consumer, trading, construction, and plantation/mining). Companies in

the consumer and industrial sectors showed statistically significant results, whereas results in other sectors were not statistically significant. Hence, the null hypothesis is:

H₁₁: *Ceteris paribus*, there is no association between industry type and the level of ISCR.

7.2.4.2 Auditor Size (AUD)

Large audit firms (Big 4 audit firms) are considered to be entities that are more concerned about their good reputation, have more skilled and experience auditors, and are better able to limit the opportunistic behaviour of the management than smaller audit firms (Wallace et al. 1994; Haniffa and Cooke 2002). They would be in a better position to influence the management to disclose more information in published annual reports (Alsaeed, 2006) compared to the non-Big 4 audit firms because their auditors are more concerned with meeting minimum standards (Singhvi & Desai 1971, p.133). Literature on the relationship between auditor size and disclosure issues, however, reveals mixed evidence.

Camfferman and Cooke, (2002) analysed the issue in companies in the U.K. and the Netherlands; they found a significant positive relationship among the British firms but insignificant results for Dutch firms. Archambault and Archambault (2003) studied the relationship in 33 countries; Inchausti (1997) examined the factor in Spanish companies; Lopes and Rodrigues (2007) examined the variables in Portuguese listed companies; Makhija and Patton (2004) analysed them in Czech companies; Naser et al. (2002) tested them in Jordanian companies; and Singhvi and Desai (1971) analysed them in U.S firms: they all found a significant positive relationship.

However, there are also studies that failed to reveal any significant relationship. For example, the studies done by Alsaeed (2006) examined the relationship in Saudi Arabian companies; Haniffa and Cooke (2002) investigated the relationship in

Malaysian companies; and Wallace et al. (1994) investigated the relationship in Spanish firms.

Contrary to the findings of the previous mentioned studies, Wallace and Naser (1995) found a significantly negative relationship. They, however, limited the generalisability of their study by examining the relationship of auditor size with mandatory disclosure in the corporate annual reports only of firms listed on the Hong Kong Stock Exchange, and did not include voluntary disclosure items.

Empirical evidence from previous studies, therefore, suggests an association between auditor size and either voluntary disclosure, corporate governance disclosure, or mandatory disclosure. This study extends the current literature by examining the variable with Islamic social disclosure. Hence, this study hypothesizes that:

H₁₂: *Ceteris paribus*, there is no association between size of auditing firm and the level of ISCR.

7.2.4.3 Foreign Activities (FRNX)

A company's involvement in foreign activities is another factor that could influence management to disclose more information to their stakeholders. Lopes and Rodrigues (2007) predicted that the degree of disclosure would be higher in more internationalised companies. They argued that a more internationalised company is a company that is listed on multiple or foreign stock exchanges, or operates in more than one geographical area (p. 34). Their findings, however, reveal no significant relationship. Archambault and Archambault, 2003 empirically tested this attribute in 33 countries and found a statistically significant positive result. In addition, Haniffa and Cooke 2002, have also argued that involvement in foreign activities provide greater experience for management in handling and disseminating information. In their study, they hypothesized that Malaysian companies with such experience would disclose more information but their findings failed to support the hypothesis.

Based on the above arguments and to test the relationship between foreign activities and Islamic social disclosure (ISCR) of Malaysian companies, this study hypothesizes that:

H₁₃: *Ceteris paribus*, there is no association between company involvement in foreign activities and the level of ISCR.

Table 7.6 below lists the empirical finding from previous studies on the relationship between disclosure and market-related factors.

Table 7.6: Findings from Empirical Studies on the Relationship between Market-related Factors and Disclosure

Previous Studies	Variable (<i>Predicted Sign</i>)		
	Type of Industry (+)	Auditor Size (+)	Foreign Activities (+)
Alsaeed, 2006	ns	ns	
Archambault & Archambault, 2003		+ve	+ve
Camfferman & Cooke 2002	mixed	+ve (U.K. firms) ns (Dutch firms)	
Inchausti, 1997	ns	+ve	
Haniffa & Cooke, 2002	mixed	ns	ns
Lopes & Rodrigues, 2007	-ve	+ve	ns
Makhija & Patton, 2004	ns	+ve	
Naser et al., 2002	ns	+ve	
Othman et al., 2009	ns		
Singhvi & Desai, 1971		+ve	
Wallace et al., 1994	ns		
Wallace & Naser, 1995		-ve	

Legend: ns = not statistically significant

7.2.5 Control Variable: Corporate Characteristics

Previous researchers (as listed in Table 7.7 below) have examined the relationship between corporate characteristics such as **size**³, **profitability**, **gearing**, and **business complexity** with the level of disclosure, in various countries. The results revealed by previous studies are mixed. However, since the focus of this study is more concerned with examining the relationship between ISCR and additional regulations, cultural issues, ownership-structure attributes, and market-related factors, corporate characteristics are treated as control variables.

Table 7.7: Findings from Empirical Studies on the Relationship between Corporate Characteristics and Disclosure

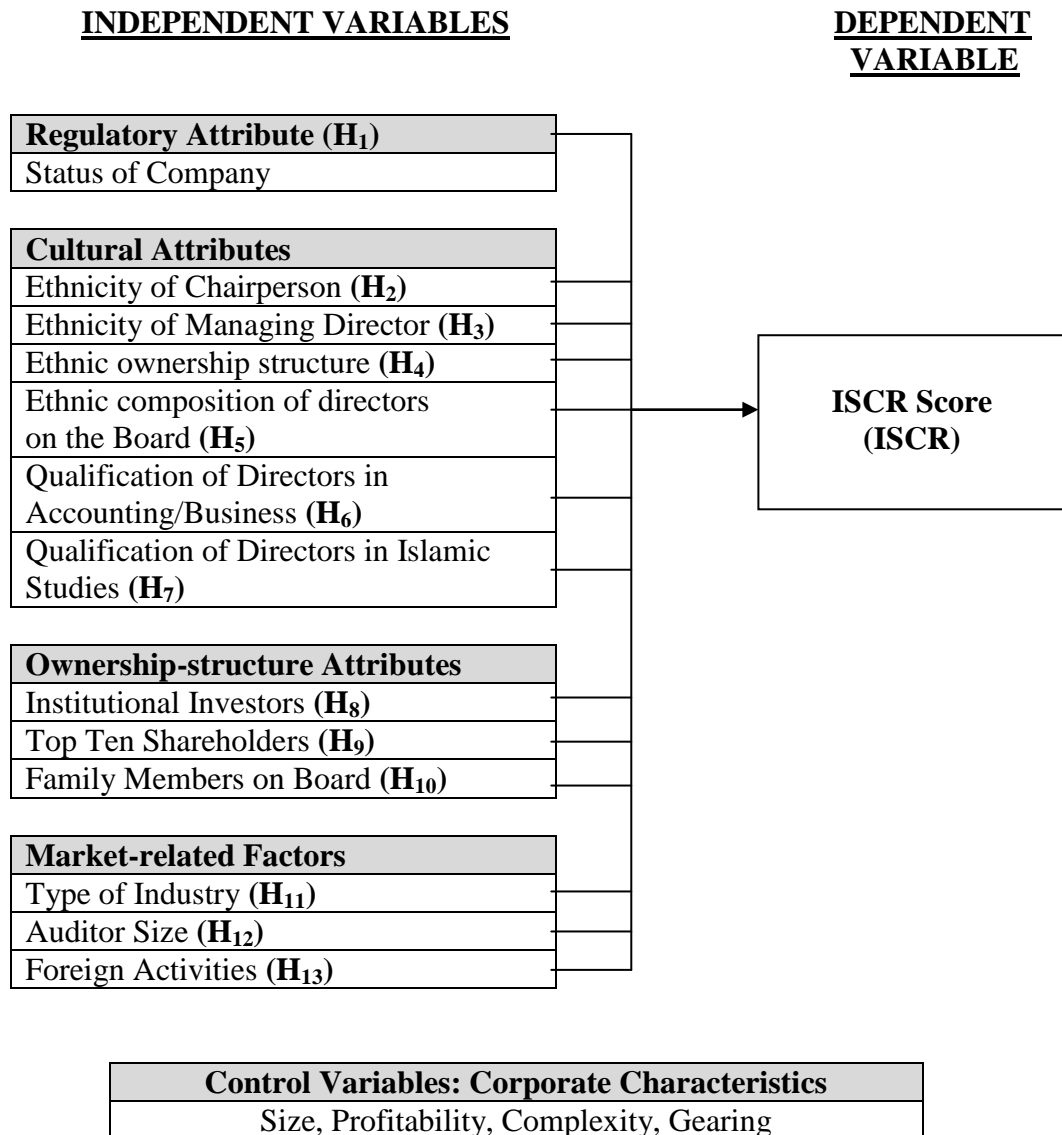
Previous Studies	Variables (<i>Predicted Sign</i>)			
	Size (+ve)	Profitability (+ve)	Gearing (+ve)	Business Complexity (+ve)
Arshad et al., 2009	+ve			
Alsaeed, 2006	+ve	ns		
Archambault & Archambault, 2003	+ve			+ve
Boesso & Kumar, 2007	+ve			+ve
Debreceeny & Rahman, 2005		+ve		
Haniffa & Cooke, 2002	ns	+ve	ns	ns
Hossain et al., 1994	+ve			
Inchausti, 1997	+ve	-ve		
Lang & Lundholm, 1993	+ve	+ve		
Leuz & Verrechia, 2000	+ve	+ve		
Makhija & Patton, 2004	ns	ns		
Mohd Ghazali & Weetman, 2006		+ve	ns	
Naser et al., 2002	+ve	+ve	+ve	
Othman et al., 2009	+ve	+ve		
Prado-Lorenzo et al., 2009	mixed			
Singhi & Desai, 1971	+ve			
Wallace et al., 1994	+ve		ns	+ve
Wallace & Naser, 1995	+ve	-ve		+ve

Legend: ns = not statistically significant

³ Some studies used turnover, number of shareholders, and capital stock to represent the size of companies. To be consistent with Chapter 6, and to avoid multicollinearity problems, the size of a company is based on the total assets. From the correlation tests done on the relationship between turnover and total assets, the scores are highly correlated, i.e. 0.858**. This result appears to be consistent with Wallace et al. (1994).

The links between identified independent variables, control variables and dependent variable as hypothesized above (H1 to H13) are summarised in Figure 7.1 below.

Figure 7.1: Theoretical Framework of ISCR Study



7.3 Sample Selection

To ensure the level of consistency, this study examined the same group of companies as stated in Section 6.3.3. The total number of companies included in the analyses was 224 companies; these include 126 companies categorised as *Shariah*-compliant (SCC), 65 companies as *Shariah* Non-compliant (SNC), and 33 companies as Listed and Delisted (DLL).

The dependent and independent variables affected in this study are measured as stated in the following sections.

7.4 Measurement of Dependent Variables

The measurement of a dependent variable depends on the aggregate score of Islamic social disclosure items in the annual report of each company as shown below. Details of the development of the disclosure index, and validity tests have been explained in Section 6.3.2.

$$\text{ISCR}_j = \frac{\sum_{i=1}^{n_j} \mathbf{X}_{ij}}{\mathbf{n}_j}$$

\mathbf{n}_j = number of items expected for j^{th} firm, $\mathbf{n}_j \leq 35$

\mathbf{X}_{ij} = 1 if i^{th} item disclosed, 0 if i^{th} item not disclosed, so that $0 \leq \text{ISCR}_j \leq 1$.

7.5 Measurement of Independent Variables

The independent variables chosen are categorised into four groups; this is consistent with the EQ study: 1) additional regulatory (ADR) variable; 2) cultural (CULT) variables; 3) ownership-structure (OSV) variables, and 4) market-related (MRV) variables. Control variables identified in this study are based on four attributes under corporate characteristics, namely, size, profitability, gearing, and business complexity. Table 7.8 provides a summary of the selected independent variables and their source of information.

Table 7.8 Summary of Selected Independent Variables Associated/Not Associated with ISCR and their Data Sources

Independent Variables	Operationalisation	Source of Data
<i>ADR = Status (H₁)</i>	0 = DLL 1 = SNC 2 = SCC	Annual Report, & ICM Reports
<i>Cultural Attributes (CULT)</i>		
Ethnicity of Chairperson (<i>H₂</i>)	Dichotomous: Malay/Non-Malay 0 = No; 1 = Yes	Annual Report
Ethnicity of Managing Director (<i>H₃</i>)	Proportion of Malay Managing Directors exceeds other races. Dichotomous: Yes/No 0 = No; 1 = Yes	
Ethnic ownership structure (<i>H₄</i>)	Proportion of Malay Shareholdings exceeds other races. Dichotomous: Yes/No 0 = No; 1 = Yes	
Ethnic composition of Directors on the Board (<i>H₅</i>)	Proportion of Malay Directors on the Board exceeds other races. Dichotomous: Yes/No 0 = No; 1 = Yes	
Qualification of Directors in Accounting or Business (<i>H₆</i>)	Dichotomous: Yes/No 0 = No; 1 = Yes	

Table 7.8: Summary of Selected Independent Variables Associated/Not Associated with EQ and their Data Sources (cont.)

Independent Variables	Operationalisation	Source of Data	
<i>Cultural Attributes (CULT)- cont.</i>			
Qualification of Directors in Islamic Studies (<i>H₇</i>)	Dichotomous: Yes/No 0 = No; 1 = Yes	Annual Report	
<i>Ownership-structure Factors (OSV)</i>			
Institutional Investors (<i>H₈</i>)	Total shares owned by institutional shareholders disclosed in the “30 largest shareholders” information in the annual reports/Total number of shares issued.		
Top-Ten Shareholders (<i>H₉</i>)	Total shares owned by top ten shareholders disclosed in the “30 largest shareholders” information in the annual reports/Total number of shares issued.		
Family Members on Board (<i>H₁₀</i>)	Total family members on the Board/ Total number of Directors on the Board.		
<i>Market-related Factors (MRV)</i>			
Type of Industry (<i>H₁₁</i>)	1 = Consumer Products 2 = Construction 3 = Industrial Products 4 = Plantation 5 = Properties 6 = Trading & Services 7 = Infrastructure & Technologies		
Auditor Size (<i>H₁₂</i>)	Big Four vs. Non-Big Four 0 = No; 1= Yes		
Foreign Activities (<i>H₁₃</i>)	Dichotomous: Yes/ No 0 = No; 1 = Yes		
<i>Control Variable: Corporate Characteristics</i>			
Size	Total Assets as at 31 December 2007 (Log Assets)		
Profitability	Net Income /Total Owners’ Equity		
Gearing	Total Debt/Total Assets		
Business Complexity	Actual number of subsidiaries		

7.6 Analyses and Test Statistics Employed

Results from Kolmogorov-Smirnov Test (or K-S), as shown in Table 7.9 below, reveal that the normality is highly significant for all variables, indicating that the distributions are not normal for all variables.

Table 7.9: Kolmogorov-Smirnov Test for Normality

	Statistic	Kolmogorov-Smirnov ^a	
		df	Sig.
Underlying Philosophy & Value	.416	224	.000
<i>Shariah</i> Supervisory Board	.522	224	.000
Product & Services	.164	224	.000
<i>Zakat</i>	.539	224	.000
Employees	.188	224	.000
Environment	.354	224	.000
Community	.195	224	.000
Islamic Terminology & Value	.529	224	.000
Islamic Social Disclosure (ISCR)	.086	224	.000
Status	.349	224	.000
Size	.157	224	.000
Gearing	.065	224	.023
Complexity	.220	223	.000
Profitability	.230	224	.000
Institutional Investor	.228	223	.000
Top-ten shareholders	.073	222	.006
Family on Board	.312	224	.000
Type of Industry	.211	224	.000
Auditor Size	.446	224	.000
Foreign Activities	.426	224	.000
Ethnicity of Chairperson	.364	224	.000
Ethnicity of Managing Director	.489	224	.000
Total Malay shareholding exceed other races	.522	224	.000
Total Malay on Board exceed other races	.468	224	.000
Qualification of Directors in Accounting/Business	.539	224	.000
Qualification of Directors in Islamic Studies	.536	224	.000

^a. Lilliefors Significance Correction *. This is a lower bound of the true significance.

Therefore, as with the analyses reported in Chapter 5, both parametric and non-parametric analyses were performed and presented in order to examine the relationship between ISCR and all other attributes (see Table 7.10 below). Additionally, since the same variables (previously examined on EQ level) are used to investigate the relationship between the dependent variable of ISCR and the independent variables (additional regulation, cultural variables, ownership-structure variables, market-related variables), where the corporate characteristics are treated as control variables, this study will also run the analyses using hierarchical multiple regression analysis in order to progressively and comprehensively measure the extent to which ISCR can be explained by the ADR, CULT, OSV, MRV, and corporate characteristics.

Table 7.10: Summary of Hypotheses, Variables Involved and Method of Analysis

Description	Hypothesis	Variable	Method of Analysis
<i>ADR</i>	H ₁	Status of Company	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation, • Simple Regression • Kruskal-Wallis test
<i>CULT</i>	H ₂	Ethnicity of Chairperson	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation • T-test comparison of means • Mann-Whitney U-test
	H ₃	Ethnicity of Managing Director	
	H ₄	Ethnic ownership structure	
	H ₅	Ethnic composition of directors on board	
	H ₆	Qualification of Directors in Accounting or Business	
	H ₇	Qualification of Directors in Islamic Studies	
<i>OSV</i>	H ₈	Institutional Investors	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation • Simple Regression
	H ₉	Top Ten Shareholders	
	H ₁₀	Family Members on Board	

Table 7.10: Summary of Hypotheses, Variables Involved and Method of Analysis (Cont.)

Description	Hypothesis	Variable	Method of Analysis
<i>MRV</i>	H ₁₁	Type of Industry	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation • ANOVA • Kruskal-Wallis Test
	H ₁₂	Auditor Size	<ul style="list-style-type: none"> • Pearson's/Spearman Correlation
	H ₁₃	Foreign Activities	<ul style="list-style-type: none"> • T-test comparison of means • Mann-Whitney U-test
<i>Control Variables: Corporate Characteristics</i>		Size	<ul style="list-style-type: none"> • Pearson's/Spearman correlation, • Simple regression
		Profitability	
		Gearing	
		Business Complexity	

7.7 Results and Discussion

This section presents and discusses the results of the data analyses carried out in this study. In this section, the relationships between variables based on the univariate analyses are presented first, followed by the presentation of results revealed from hierarchical multiple regressions; Section 7.8 later discusses on results related to the analyses of specific hypotheses.

7.7.1 Descriptive Statistics

Descriptive statistics for the continuous and categorical variables for the companies involved in this study are the same as those presented in **Section 5.7.1**.

7.7.2 Univariate Analysis – Test on Relationship between Variables

This section presents results from univariate analyses performed to test the relationship between ISCR and the independent variables.

7.7.2.1 Univariate Results: Effect of Additional Regulatory (ADR) Factor

Tables 7.11 and 7.12 below present the results based on a correlation test, a one-way ANOVA (a parametric test) and the Kruskal-Wallis test (non-parametric test) carried out to examine the relationship between ADR and ISCR.

Table 7.11: Correlation Analysis between ADR and ISCR

Variable	Correlation	ISCR
ADR (n = 224)	Pearson Correlation	.021
	Sig (2 tailed)	.753
	Spearman's <i>rho</i> correlation	.020
	Sig (2 tailed)	.766

Table 7.12: One-way ANOVA and Kruskal-Wallis for ADR

Panel A: One-way ANOVA

Status of Company	N	Mean	Std. Deviation	Levene (Sig.)	ANOVA (Sig.)
SNC	65	.327	.182	.918	.725
SCC	126	.348	.188		
DLL	33	.332	.178		

Panel B: Kruskal-Wallis Test

Status of Company	N	Mean Rank	Median	χ^2	df	Sig.
SNC	65	108.68	.340	.496	2	.780
SCC	126	115.17	.370			
DLL	33	109.83	.370			
TOTAL	224					

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Findings from the correlation analysis (as shown in Table 7.11 above) disclose that there is no significant association between the additional regulation factor (ADR) and ISCR. A one-way between-groups analysis of variances was also conducted to explore the association between ADR and ISCR. Although the analysis does not violate the assumption of homogeneity of variance (Levene (sig) = .918), the findings reveal that there is no significant difference between the three groups ($F(2, 221) = .321, p = .725$) (see Panel A of Table 7.12). The data were then further analysed using the Kruskal-Wallis Test. Consistent with the earlier analyses, the findings, as listed in Panel B Table 7.12, showed that statistically there was no significant difference in ISCR level between SCC, SNC, and DLL companies.

7.7.2.2 Univariate Results: Effect of Cultural Factors

Six hypotheses were formulated to test the relationship between the each of the two variables; i.e. Culture (CULT) and ISCR (see Section 7.2.2).

Results as per Table 7.13 below revealed that the relationship between ISCR and CULT are only positively significant in the situations related to ethnicity of chairperson (**EOC**), ethnicity of managing director (**EMD**) and ethnic composition of director on board (**ECDB**).

Table 7.13: Univariate Results: H₂, H₃, H₄, H₅, H₆ & H₇

Variable	Correlation	IPSCR
Ethnicity of Chairperson (EOC)	Pearson Correlation	.131
	Sig (2 tailed)	.050
	Spearman's <i>rho</i> correlation	.133*
	Sig (2 tailed)	.047
Ethnicity of Managing Director (EMD)	Pearson Correlation	.188**
	Sig (2 tailed)	.005
	Spearman's <i>rho</i> correlation	.196**
	Sig (2 tailed)	.003
Ethnic Ownership Structure (EOS)	Pearson Correlation	-.051
	Sig (2 tailed)	.448
	Spearman's <i>rho</i> correlation	-.055
	Sig (2 tailed)	.413
Ethnic Composition of Director on Board (ECDB)	Pearson Correlation	.164*
	Sig (2 tailed)	.014
	Spearman's <i>rho</i> correlation	.176**
	Sig (2 tailed)	.008
Qualification of Directors in Accounting or Business (EDAB)	Pearson Correlation	-.068
	Sig (2 tailed)	.312
	Spearman's <i>rho</i> correlation	-.080
	Sig (2 tailed)	.234
Qualification of Directors in Islamic Studies (EDIS)	Pearson Correlation	.029
	Sig (2 tailed)	.661
	Spearman's <i>rho</i> correlation	.024
	Sig (2 tailed)	.718

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Next, to confirm that the above argument is valid, the following alternative tests were carried out: independent-samples T-test (parametric test) and non-parametric Mann-Whitney U-test. The results of the analyses are set out in Table 7.14 below:

Table 7.14: Results from T-test and Mann-Whitney U-test Performed for H₂ – H₇

Variables	N	Mean	Std Deviation (SD)	t-value (sig 2- tailed)	Median	Mann-Whitney (Z-Value/ sig. 2 tailed)
Ethnicity of Chairperson (H₂)						
Malay	122	.362	.188	-1.969 (.050)	.385	5266 (-1.982/.047*)
Others	102	.313	.178		.310	
Ethnicity of Managing Director (H₃)						
Malay	46	.408	.190	-2.844 (.005)	.460	2946 (-2.934/.003**)
Others	178	.322	.179		.325	
Ethnic Ownership Structure (H₄)						
> Malay	1	.200	-	-	.200	58.5 (-.821/.412)
< Malay	223	.340	.184		.370	
Ethnic Composition of Director on Board (H₅)						
> Malay	56	.392	.199	-2.475 (.014)	.445	3601 (-2.630/.009**)
< Malay	168	.322	.176		.325	
Qualification of Directors in Accounting or Business (H₆)						
Yes	218	.338	.184	1.103 (.312)	.340	467.5 (-1.193/.233)
No	6	.415	.215		.460	
Qualification of Directors in Islamic Studies (H₇)						
Yes	4	.380	.124	-.440 (.661)	.375	393.5 (-.363/.717)
No	220	.339	.185		.355	

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Results from both analyses, indicate that three attributes related to CULT showed a significant difference, namely ethnicity of chairperson, ethnicity of managing director and ethnic composition of Directors on the company's Board.

7.7.2.3 Univariate Results – Ownership-structure Influences

Tables 7.15 and 7.16 below present the results based on a correlation test and a simple regression test carried out to examine the relationship between ownership-structure variables (top-ten shareholders (TTSH), institutional investors (INSIV) and family members on board (FMB)) and ISCR.

The results shown in Table 7.15 below demonstrate that all ownership structure variables are found to be significantly correlated with the ISCR. Positive correlations existed between ISCR and TTSH, and between ISCR and INSIV. However, the relationship between FMB and ISCR was found to be negatively correlated.

Table 7.15: Correlation Analysis between TTSH, INSIV, FMB and ISCR

Variable	Correlation	ISCR
Institutional Investor (INSIV) (n = 223)	Pearson Correlation	.340**
	Sig (2 tailed)	.000
	Spearman's <i>rho</i> correlation	.494**
	Sig (2 tailed)	.000
Top-ten Shareholder (TTSH) (n = 222)	Pearson Correlation	.189**
	Sig (2 tailed)	.005
	Spearman's <i>rho</i> correlation	.190**
	Sig (2 tailed)	.005
Family Members on Board (FMB) (n= 224)	Pearson Correlation	-.258**
	Sig (2 tailed)	.000
	Spearman's <i>rho</i> correlation	-.267**
	Sig (2 tailed)	.000

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Additionally, a simple regression analysis carried out between ISCR and the three variables. Findings from the test (see Table 7.16 below) support the above results; that is, all three variables were found to have significant relationships with ISCR. Positive relationships exist between ISCR and TTSH and INSIV, but a negative relationship with FMB.

Table 7.16: Summary of Coefficients data regressed for H₈, H₉ & H₁₀

Variables	β_0	β_1	R^2	DW	F	ANOVA Sig.
INSIV	.065 1.246	.321*** 5.366	.115	2.209	28.792	.000***
TTSH	.196*** 3.779	.225** 2.849	.036	2.060	8.118	.005**
FMB	.384*** 23.645	-.206*** -3.982	.067	2.170	15.858	.000***

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

7.7.2.4 Univariate Results – Effect of Market-related Variables on EQ: Tests of H_{11} , H_{12} and H_{13}

The following results and discussions are related to the tests performed to examine the effect of market-related variables and ISCR. First, this section discusses the relationship between type of industry, followed by type of auditor, and lastly the relationship between ISCR and foreign activities.

Table 7.17: Correlation Analysis between INDS and ISCR

Variable	Correlation	ISCR
Type of Industry (INDS) (n = 224)	Pearson Correlation	.150*
	Sig (2 tailed)	.025
	Spearman's <i>rho</i> correlation	.147*
	Sig (2 tailed)	.028

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 7.17 above shows there was a positive correlation between ISCR and type of industry (INDS); $r = .15$, $n = 224$, $p < .05$. Despite reaching statistical significance, the relationship between the two variables is quite weak.

The data were then further analysed using one-way ANOVA and Kruskal-Wallis tests, and the results are reported as below (Table 7.18).

Table 7.18: One-way ANOVA for Type of Industry Variable

Type of Industry	N	Mean	Std. Deviation	Levene (Sig.)	ANOVA (Sig.)	Multiple Comparisons
Consumer Products	31	.350	.204	.384	.016*	Industrial Product and Trading & Services (.1163/.023*)
Construction	21	.297	.194			
Industrial Products	72	.304	.181			
Plantation	18	.364	.165			
Properties	31	.297	.176			
Trading & Services	39	.420	.172			
Others	12	.414	.136			

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

A one-way between-group analysis of variance was conducted to explore the relationship of industry on ISCR. Companies were divided into 7 groups according to their sector. There was a statistically significant difference at the $p < .05$ level in ISCR for the 7 groups: $F(6, 2.17) = 2.7, p = .02$. Despite reaching statistical significance, the actual difference in mean scores between groups was not remarkable. The effect size, calculated using eta square, was .07. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Industrial Product ($M = .304, SD = .181$) were statistically significantly different from that of Trading and Services ($M = .420, SD = .172$). Other groups did not differ significantly from each other (refer to Table 7.18 above).

Table 7.19: Kruskal-Wallis Test for Type of Industry Variable

Type of Industry	N	Mean Rank	Median	χ^2	df	Sig.
Consumer Products	31	116.73	.40	15.05	6	.02*
Construction	21	98.07	.34			
Industrial Products	72	99.88	.31			
Plantation	18	118.53	.34			
Properties	31	98.16	.31			
Trading & Services	39	141.47	.46			
Others	12	136.42	.40			
TOTAL	224		.36			

A Kruskal-Wallis Test revealed a statistically significant difference in the ISCR score across 7 different types of industries (refer to Table 7.19 above). Companies in the category of Trading and Services recorded a higher median score (.46), followed by those in the Consumer Products category and the Other category (.40). Next was the Construction and Plantation category at .34, and the lowest median was for the Industrial Products and Properties category (.31).

In the next analysis, the relationship between type of auditor (AUD) and ISCR was explored using three different techniques: a correlation test, a T-test and a Mann-Whitney U-test.

From the correlation analyses, both Pearson and Spearman's *rho* correlation tests showed that there was a positive correlation between the two variables even though the strength of the relationship was small (see Table 7.20 below).

Table 7.20: Correlation Analysis between AUD and ISCR

Variable	Correlation	ISCR
Auditor Size (AUD) (n = 224)	Pearson Correlation	.187**
	Sig (2 tailed)	.005
	Spearman's rho correlation	.192**
	Sig (2 tailed)	.004

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

The T-test and Mann-Whitney U-test performed also reveals that the relationship between type of auditor and ISCR is significant (see Table 7.21 below).

Table 7.21: Results from T-test and Mann-Whitney U-test Performed for H₁₂

Panel A: Independent-samples T-test

Auditor Size	N	Mean ISCR	Std Deviation (SD)	t-value (sig. 2- tailed)
Big 4	158	.362	.188	-2.831 (.005**)
Non Big 4	66	.287	.164	

Panel B: Mann-Whitney U test

Auditor Size	N	Mean Rank ISCR	Median	Mann-Whitney (Z-Value/ sig. 2 tailed)
Big 4	158	120.5	.40	3946 (-2.872/.004**)
Non Big 4	66	93.29	.29	

The results above indicate that there is a significant difference between the companies that employed Big 4 auditors and those that employed non-Big 4 auditors. Companies with Big 4 auditors tended to disclose more information than the non-Big 4 auditors.

The next attribute under market-related variables is foreign activities (FRNX). Table 7.22 below presents the results based on correlation analysis between FRNX and ISCR. The result from Pearson correlation shows there is a weak significant positive

relationship between the variables. However, Spearman's *rho* correlation test does not show a significant relationship between the variables.

Table 7.22: Correlation Analysis between FRNX and ISCR

Variable	Correlation	ISCR
Foreign Activities (FRNX) (n = 224)	Pearson Correlation	.131*
	Sig (2 tailed)	.050
	Spearman's <i>rho</i> correlation	.128
	Sig (2 tailed)	.056

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

To confirm the relationship between the variables, T-test and Mann-Whitney U-test were also been carried out. The results again confirmed that, based on parametric analysis, the variables are associated but the non-parametric analysis failed to show any relationship between the variables (see Table 7.23 below).

Table 7.23: Results from T-test and Mann-Whitney U-test Performed for H₁₃

Panel A: Independent-samples T-test

FRNX	N	Mean ISCR	Std Deviation (SD)	t-value (sig. 2- tailed)
Yes	158	.357	.178	-1.974 (.050*)
No	66	.306	.186	

Panel B: Mann-Whitney U-test

FRNX	N	Mean Rank ISCR	Median	Mann-Whitney (Z-Value/sig. 2 tailed)
Big 4	158	118.37	.37	4713.5 (-1.912/.056)
Non Big 4	66	100.85	.31	

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Since the data are not normally distributed, the results from the non-parametric analysis are the relevant results. Therefore, it can be concluded that there is no significant relationship between the foreign activities and ISCR.

7.7.2.5 Univariate Results – Corporate Characteristics

Tables 7.24 and 7.25 below report the results of the relationship between ISCR and corporate characteristics.

Table 7.24: Correlation Analysis between Size, Profit, Gearing, and ISCR

Variable	Correlation	ISCR
Size (SIZE) (n = 224)	Pearson Correlation	-.037
	Sig (2 tailed)	.579
	Spearman's <i>rho</i> correlation	.027
	Sig (2 tailed)	.682
Profitability (Profit) (n = 224)	Pearson Correlation	.246**
	Sig (2 tailed)	.000
	Spearman's <i>rho</i> correlation	.330**
	Sig (2 tailed)	.000
Gearing (n = 224)	Pearson Correlation	.027
	Sig (2 tailed)	.690
	Spearman's <i>rho</i> correlation	.086
	Sig (2 tailed)	.200
Business Complexity (CMPLX) (n = 224)	Pearson Correlation	.261**
	Sig (2 tailed)	.000
	Spearman's <i>rho</i> correlation	.252**
	Sig (2 tailed)	.000

Table 7.25: Summary of Coefficients' Data Regressed for Companies' Characteristics and ISCR

Variables	β_0	β_1	R^2	DW	F	ANOVA Sig.
SIZE	.374*** (6.033)	-.005 (-.556)	.001	2.139	.309	.579
Profit	.318*** (23.877)	.203*** (3.786)	.056	2.103	14.337	.000***
Gearing	.331*** (13.594)	.020 (.399)	.001	2.141	.159	.690
CMPLX	.300*** (19.331)	.002*** (4.025)	.068	2.203	16.197	.000***

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

Results for the corporate characteristics shown in Tables 7.24 and 7.25 above indicate that profitability ratio and business complexity are the variables that have a significant positive relationship with ISCR.

However, the results from the univariate analysis could also be challenged by the multiple regression analysis for several reasons: for example, multivariate tests would offer a the better indication of combined relationships between dependent variable and independent variables; some variables were found to be significant in the univariate analysis but insignificant in the multivariate analysis; and distractions arising from the high correlations between the variables (Hair et al., 2006; Haniffa, 1999; Pallant, 2007; Singhvi & Desai, 1971; Hossain et al., 1994). Therefore, the next section reveals the results derived from multivariate analysis.

7.7.3 Multivariate Analysis: Hierarchical Multiple Regression

This section discusses the models constructed to examine the association between the dependent variable of ISCR and the independent variables of regulation (ADR), cultural factors (CULT), ownership-structure variables (OSV), market-related variables (MRV), and corporate characteristics as control variables. As in Section 5.8, in order to avoid perfect collinearity, the SCC was used as a benchmark to compare with the other categories (SNC and DLL) for ADR variables; and the 'Other' sector was used as a control group for the industry variable.

The regression equation is as follows:

$$\begin{aligned} \text{ISCR}_j = & \beta_0 + \beta_1\text{ADR}_{1j} + \beta_2\text{ADR}_{2j} + \beta_3\text{EOC}_j + \beta_4\text{EMD}_j + \beta_5\text{EOS}_j + \beta_6\text{ECDB}_j + \\ & \beta_7\text{EDAB}_j + \beta_8\text{EDIS}_j + \beta_9\text{INSIV}_j + \beta_{10}\text{TTSH}_j + \beta_{11}\text{FMB}_j + \beta_{12}\text{INDS}_{1j} + \\ & \beta_{13}\text{INDS}_{2j} + \beta_{14}\text{INDS}_{3j} + \beta_{15}\text{INDS}_{4j} + \beta_{16}\text{INDS}_{5j} + \beta_{17}\text{INDS}_{6j} + \\ & \beta_{18}\text{AUD}_j + \beta_{19}\text{FRNX}_j + \beta_{20}\text{Size}_j + \beta_{21}\text{Gearing}_j + \beta_{22}\text{Profit}_j + \\ & \beta_{23}\text{CMPLX}_j + \varepsilon_j \end{aligned}$$

Where:

- ISCR_j = Total Islamic Social Disclosure score for firm *j*
- ADR₁ = 1 if the company is categorised as SNC; 0 otherwise
- ADR₂ = 1 if the company is categorised as DLL; 0 otherwise
- EOC = 1 if the company has Malay chairperson; 0 otherwise
- EMD = 1 if the company has Malay managing director; 0 otherwise
- EOS = 1 if the proportion of Malay shareholdings exceed those of other ethnic groups; 0 otherwise
- ECDB = 1 if the proportion of Malay Directors on the Board exceed those of other ethnic groups; 0 otherwise
- EDAB = 1 if there is at least one member of the Board of Directors with a qualification in Accounting or Business; 0 otherwise
- EDIS = 1 if there is at least one member of the Board of Directors with a qualification in Islamic Studies; 0 otherwise
- INSIV = Total shares owned by institutional shareholders disclosed in the “30 largest shareholders” information in the annual reports / Total number of shares issued.
- TTSH = Total shares owned by top ten shareholders disclosed in the “30 largest shareholders” information in the annual reports / Total number of shares issued.
- FMB = Total family members on the board / Total number of Directors on the Board.
- INDS₁ = 1 if the company is in the Consumer Products sector; 0 otherwise

INDS ₂	=	1 if the company is in the Construction sector; 0 otherwise
INDS ₃	=	1 if the company is in the Industrial Products sector; 0 otherwise
INDS ₄	=	1 if the company is in the Plantations sector; 0 otherwise
INDS ₅	=	1 if the company is in the Properties sector; 0 otherwise
INDS ₆	=	1 if the company is in the Trading and Services sector; 0 otherwise
AUD	=	1 if the company has a Big-4 auditor; 0 otherwise
FRNX	=	1 if the company has been involved in any foreign activities; 0 otherwise
Size	=	Log of the firm's total assets [correlation tests between total assets and revenue show the scores are highly correlated (.858**)]
Profit	=	Net Income /Total Owners' Equity
Gearing	=	Total Debt/Total Assets
CMPLX	=	Business Complexity (Actual number of subsidiaries)
β ₀	=	Intercept
β ₁ – β ₂₃	=	The coefficients of the independent variables
ε _j	=	Error term

Note:

ADR₁ and ADR₂ = dummy variables for additional regulatory factor

INDS₁ to INDS₆ = dummy variable for industry specific factor

Accordingly, based on the main model above, five separate cross-sectional regression models were examined to test the hypotheses. The five models are as follows:

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \varepsilon_j \quad (\text{Model 7a})$$

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 ADR_{1j} + \beta_6 ADR_{2j} + \varepsilon_j \quad (\text{Model 7b})$$

$$\text{ISCR}_j = \beta_0 + \beta_1\text{Size}_j + \beta_2\text{Gearing}_j + \beta_3\text{Profit}_j + \beta_4\text{CMPLX}_j + \beta_5\text{ADR}_{1j} + \beta_6\text{ADR}_{2j} + \beta_7\text{EOC}_j + \beta_8\text{EMD}_j + \beta_9\text{EOS}_j + \beta_{10}\text{ECDB}_j + \beta_{11}\text{EDAB}_j + \beta_{12}\text{EDIS}_j + \varepsilon_j$$

(Model 7c)

$$\text{ISCR}_j = \beta_0 + \beta_1\text{Size}_j + \beta_2\text{Gearing}_j + \beta_3\text{Profit}_j + \beta_4\text{CMPLX}_j + \beta_5\text{ADR}_{1j} + \beta_6\text{ADR}_{2j} + \beta_7\text{EOC}_j + \beta_8\text{EMD}_j + \beta_9\text{EOS}_j + \beta_{10}\text{ECDB}_j + \beta_{11}\text{EDAB}_j + \beta_{12}\text{EDIS}_j + \beta_{13}\text{INSIV}_j + \beta_{14}\text{TTSH}_j + \beta_{15}\text{FMB}_j + \varepsilon_j$$

(Model 7d)

$$\text{ISCR}_j = \beta_0 + \beta_1\text{Size}_j + \beta_2\text{Gearing}_j + \beta_3\text{Profit}_j + \beta_4\text{CMPLX}_j + \beta_5\text{ADR}_{1j} + \beta_6\text{ADR}_{2j} + \beta_7\text{EOC}_j + \beta_8\text{EMD}_j + \beta_9\text{EOS}_j + \beta_{10}\text{ECDB}_j + \beta_{11}\text{EDAB}_j + \beta_{12}\text{EDIS}_j + \beta_{13}\text{INSIV}_j + \beta_{14}\text{TTSH}_j + \beta_{15}\text{FMB}_j + \beta_{16}\text{INDS}_{1j} + \beta_{17}\text{INDS}_{2j} + \beta_{18}\text{INDS}_{3j} + \beta_{19}\text{INDS}_{4j} + \beta_{20}\text{INDS}_{5j} + \beta_{21}\text{INDS}_{6j} + \beta_{22}\text{AUD}_j + \beta_{23}\text{FRNX}_j + \varepsilon_j$$

(Model 7e)

Additionally, several tests were also conducted to ensure that the analyses were free from the problem of multicollinearity and outliers. Correlation coefficients among the independent variables and control variables as reported in Appendix 7A show the relationship among the independent variables did not exceed .7. Therefore all variables were retained for further analysis. Additionally, this study is also free from multicollinearity problems because, as presented in Appendix 7B, the value of Tolerance is more than .10 and the VIF values are below the cut-off of 10 (Pallant, 2007). In terms of outliers, the maximum value for Cook's Distance is .098 (less than 1), therefore suggesting that the outliers have no major problems and would not unnecessarily influence the results of the models.

Results from the regression analyses are presented in Table 7.26 below.

Table 7.26: Hierarchical Regression Results (*Unstandardised coefficients*) from Multivariate Analysis of Determinants of Islamic Social Disclosure (ISCR)

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R²	12.9%	13.6%	20.3%	28.6%	33.4%
Adjusted R²	11.3%	11.2%	15.8%	23.4%	25.6%
R² Change	12.9%	0.7%	6.7%	8.3%	4.8%
F-Value	8.01	5.64	4.45	5.50	4.31
p-value	.000	.000	.000	.000	.000
Constant	.300*** (4.623)	.304*** (4.670)	0.353*** (3.829)	0.071 (.647)	.110 (.888)
Variables					
SIZE	-.002 (-.205)	-.001 (-.099)	.001 (.136)	.006 (.770)	.008 (1.010)
Profit	.204*** (3.867)	.203*** (3.839)	.229*** (4.349)	.189*** (3.716)	.191*** (3.727)
Gearing	-.025 (-.516)	-.019 (-.397)	-.050 (-1.022)	-.026 (-.532)	-.076 (-1.469)
CMPLX	.002*** (4.087)	.002*** (4.219)	.002*** (4.319)	.002*** (4.000)	.001*** (3.430)
ADR ₁		-.035 (-1.308)	-.035 (-1.31)	-.011 (-.433)	-.027 (-1.044)
ADR ₂		-.023 (-.667)	-.015 (-.432)	-.010 (-.315)	-.012 (-.358)
CULTURAL FACTOR					
EOC			.041 (1.536)	.027 (1.034)	.036 (1.386)
EMD			.059 (1.268)	.028 (.628)	.028 (.628)
EOS			-.325^a (-1.856)	-.239 (-1.401)	-.175 (-1.007)
ECDB			.025 (.576)	.007 (.155)	.023 (.530)
EDAB			-.098 (-1.342)	-.072 (-1.029)	-.052 (-.746)
EDIS			.024 (.273)	.024 (.290)	.060 (.708)
OWNERSHIP-STRUCTURE VARIABLES					
INSIV				.165** (2.633)	.148* (2.373)
TTSH				.181* (2.255)	.151* (1.847)
FMB				-.132* (-2.423)	-.089 (-1.579)

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
MARKET-RELATED VARIABLES					
INDS ₁					-.093 (-1.593)
INDS ₂					-.100 (-1.611)
INDS ₃					-.117* (-2.177)
INDS ₄					-.115^a (-1.745)
INDS ₅					-.107^a (-1.795)
INDS ₆					-.066 (-1.163)
AUD					.049^a (1.942)
FRNX					.050* (1.936)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

Table 7.26 above displays the unstandardised regression coefficients (B), intercepts, R^2 , adjusted R^2 , R^2 Change, and p-value for the five models. Values of Adjusted R^2 are increasing from 11.3% to 25.6%. The R^2 change shows that they are all significantly different from zero at all levels. This suggests that the inclusion of additional variables into the model would be able to increase the value (Gujarati & Porter, 2009), even though the values appeared to be slightly lower than the value of the previous disclosure studies (Archambault & Archambault, 2003; Agrawal & Knoeber, 1996; Chau & Gray, 2002). The results, however, were found to be similar to studies by Arshad et al. (2009), Boesso and Kumar (2007), Camfferman and Cooke (2002), and Chen and Jaggi (2002), among others. The p-values of all five models indicate that the models as a whole are statistically significant. The standardised regression coefficients are presented in Appendix 7C.

7.8 Discussion on the Findings from Univariate and Multivariate Analysis of ISCR, Control Variables, and Independent Variables.

The empirical findings of the univariate and multivariate analyses of the relationship between ISCR and the independent variables examined in this study are summarized in Table 7.27 below. With reference to the independent variables, results from the univariate and multivariate analysis showed some contradictory findings. Results for ADR, some of the cultural factor variables (EOS, EDAB and EDIS), some of the ownership-structure variables (INSIV and TTSH) and one of the market-related variables (AUD) were found to be consistent in both univariate and multivariate analyses. Variables that were significant in univariate analysis but insignificant in the multivariate analyses are EOC, EMD, ECDB, and FMB. A variable that was significant in the multivariate analysis and parametric univariate analysis but insignificant in the non-parametric analysis is FRNX. Type of industry (INDS) was found to be significant in the univariate analyses, but results were mixed in the multivariate analysis.

Table 7.27: Summary of Empirical Findings from the Univariate and Multivariate Analyses of Variables Examined on Islamic Social Disclosure (ISCR) Score

Hypotheses	Univariate	Multivariate
H ₁ : Additional Rules and Regulations (ADR)	ns	ns
Cultural Factors		
H ₂ : Ethnicity of Chairperson (EOC)	+sig*	ns
H ₃ : Ethnicity of Managing Director (EMD)	+sig**	ns
H ₄ : Ethnic Ownership Structure (EOS)	ns	ns
H ₅ : Ethnic Composition of Directors on the Board (ECDB)	+sig**	ns
H ₆ : Qualification of Directors in Accounting/Business (EDAB)	ns	ns
H ₇ : Qualification of Directors in Islamic Studies (EDIS)	ns	ns
Ownership-structure Variables		
H ₈ : Institutional Investor (INSIV)	+sig**	+sig*
H ₉ : Top-ten Shareholder (TTSH)	+sig**	+sig*
H ₁₀ : Family Members on the Board (FMB)	-sig**	ns
Market-related Variables		
H ₁₁ : Type of Industry (INDS)	+sig*	mixed
H ₁₂ : Auditor Size (AUD)	+sig**	+sig ^a
H ₁₃ : Foreign Activities (FRNX)	ns	+sig*

Legends:

ns: not significant +sig: positive relationship -sig: negative relationship
sig*: significant at 5% **sig: significant at 1% *sig: significant at 0.1%
^a: Significant at 10%

7.8.1 ISCR and Control Variables

In Model 7a, the adjusted R² value of 11.3% indicates that slightly more than 10% of the variability in ISCR is predicted by the control variables. It also reveals that having a higher number of subsidiaries (CMPLX) and high profitability (Profit) are able to explain 26% and 25% of the variance in ISCR, respectively (refer to Appendix 7C). However, Size and Gearing appear to be insignificant. These findings are consistent for all the five models and also consistent with the univariate analyses performed earlier.

The significance of both business complexity (CMPLX) and profitability (Profit) variables is consistent with findings of previous studies (Archambault & Archambault, 2003; Boesso & Kumar 2007; Wallace et al., 1994; and Wallace & Naser, 1995). The lack of significance of size is consistent with studies carried out

by Haniffa and Cooke (2002) and Makhija and Patton (2004); and the lack of significance of gearings (Gearing) is consistent with the findings of Haniffa and Cooke (2002), Mohd Ghazali and Weetman (2006), and Wallace et al. (1994).

These findings suggest that, irrespective of the firms' size, the management activities of companies with a high profitability ratio and more subsidiary companies are more transparent with respect to sharing information with stakeholders about their social commitment. The concept of sharing the companies' wealth with the stakeholders is well implemented by this type of firm. However, the insignificant results of Gearing may occur because the information in this category as examined in this study is not considered to be of importance to the companies' creditors. Arshad (2009) argued that the creditors could acquire the information from other sources. Another possible explanation could be that the creditors are only interested on the accounting numbers presented in the financial statements and items related to ISCR are less important in the decision process of granting credit to their clients.

7.8.2 Effect of Additional Regulatory Factor (ADR) on ISCR

From the univariate analysis, it is evident that the level of ISCR is not affected by the additional rules and regulations imposed by the *Shariah* Advisory Council (SAC).

In the multivariate analyses, when the effects of corporate characteristics were statistically controlled for, Model 7b revealed that the inclusion of ADR did not increase the adjusted R^2 value. ADR appears to be statistically insignificant. Results from these multivariate analyses are consistent with the univariate analyses performed earlier, but they are contradictory to findings from previous studies (Archambault & Archambault, 2003; Doupink & Salter, 1995; Inchausti, 1997; and Jaggi & Low, 2000), whose studies revealed positive significant results when examining the effect of regulatory factors on level of disclosure.

ISCR is still a new agenda. From the ISCR checklist section (see Appendix 6A), the findings clearly show that items related to *Shariah* Supervisory Board (SSB), *Zakat*

(ZKT), Islamic terminology and value (ITV) are still only rarely disclosed. Items related to the underlying philosophy and value (UPV), products and/or services (PS), employees (EYS), environment (NVRM), and community (CTY) are the items more frequently disclosed.

The items frequently disclosed are, in general, reported by all Malaysian companies, irrespective of whether they are categorised as SCC, SNC, or DLL. A possible explanation for this situation is that information which is vital for assisting users in making economic-religious decisions, specifically under UPV and SBB themes, is still lacking and not given much attention by the managements. Another possible explanation could also be that the SAC do not give any consideration or further attention to these issues during the process of granting the SCC status and scrutinizing the annual reports.

Furthermore, it is also evident that the *Shariah*-compliant companies have not taken advantage of their distinctive position (of being SCC) to differentiate their companies' annual reports from those of other companies; they merely disclose the same items that are commonly reported by all other companies. The preparation probably follows a predetermined format only.

7.8.3 Effect of Cultural Factors (CULT) on ISCR

With respect to the effect of cultural factors and ISCR, previous studies have reported mixed results, as stated in Section 7.2.2. Results reported by Haniffa and Cooke (2002) found that cultural factors were insignificant, while Othman et al. (2009) found a significant positive relationship between ratios of Malay Directors with the level of disclosure. In univariate analyses, however, the results from the present study were interesting: where the level of ISCR was associated with the ethnicity of the chairperson, the ethnicity of the managing director, and the ethnic composition of Directors on the Board, the relationship was in an obverse direction; the presence of a Malay chairperson, Malay managing director, and higher proportion of ethnic Malays as Directors on the company's Board was related to a

significantly higher level of ISCR disclosure than when ethnic Malays were not present.

When referring to multivariate analyses, Model 7c demonstrated that the inclusion of cultural variables accounted for an increase in the value of adjusted R^2 to almost 16%. The cultural factor variables explained an additional 6.7% of the variance in ISCR. Model 7c also revealed that the only variable found to be statistically significant at the 10% level is EOS. However, EOS was significant only at the level of 10%, and was insignificant in Models 7d and 7e.

Results from these multivariate analyses contradicted the univariate analyses performed earlier. However, they were consistent with findings from a voluntary disclosure study carried out by Haniffa and Cooke in 2002. The insignificance of the results reflects the fact that Malaysians, as members of a multi-cultural society, practice a similar level of judgement and professionalism. Differences in tradition, history, values, beliefs (Clark & Dawson, 1996; Dean & Khan, 1997) and culture (Cooke & Wallace, 1990; Dechow & Schrand, 2004; Doupink, 2008; Han et al., 2010; Haniffa & Cooke 2002; Guan et. al., 2005; Gray, 1998; Hope, 2003; Sudarwan & Fogarty, 1996; Smith et al., 2005; Taylor & Turley, 1986; Tsakumis, 2007) are not significant when dealing with the level of disclosure, especially if it is related to the companies' social commitment in the Islamic context.

7.8.4 Effects of Ownership-structure Variables (OSV) on ISCR

For ownership-structure variables, the univariate analyses revealed that all attributes were significant. Institutional investors (INSIV) and top-ten shareholders (TTSH) showed significant positive associations with ISCR, while presence of family members on the board (FMB) showed a significant negative association.

In multivariate analyses, after ownership-structure variables were included in the model (as per Model 7d), the R^2 value increased to almost 29%. All ownership-structure variables explained an additional 8.3% of the variance in ISCR when the

effects of corporate characteristics were statistically controlled for. However, FMB was no longer significant when market-related variables were included in the model. The other ownership-structure variables (INDS and AUD) showed a statistically significant contribution and were consistent with the results obtained from the univariate analyses.

The significant results reported for institutional investors (INSIV) are consistent with findings from a study by Barako et al. (2006), and Debreceeny and Rahman (2005); but they contradict those of Haniffa and Cooke (2002). Results reported for top-ten shareholders (TTSH) are consistent with Birt et al. (2006), Haniffa and Cooke (2002), and Prado-Lorenzo et al. (2009). Next, with regard to the presence of family members on the Board (FMB), results from hierarchical multiple regression are inconsistent with Chau and Gray (2002), Chen and Jaggi (2000), Ho and Wong (2001), Haniffa and Cooke (2002), and Mohd Ghazali and Weetman (2006).

This may be explained by the fact that in Malaysia, institutional investors and top-ten shareholders have important roles in exercising their power to influence the companies to disclose or not to disclose certain information in the annual reports. In terms of evaluating the actual stance of the firms, reducing the level of uncertainty, and helping in the other relevant decision making processes, stakeholders should be aware of these elements.

Additionally, results also suggest that FMB did not influence the disclosure level; a higher percentage of FMB did not have a strong enough position to influence the management on social disclosure matters. On the other hand, if finding from univariate analysis is referred to, it suggests that higher percentage of FMB would result in lower level of ISCR disclosure. Possible explanation is family members on Board are not keen to share information with others, more concerned on their own benefit, and that of their immediate family members (Haniffa & Cooke, 2002). Subsequently, the information asymmetry would be higher and this could lead to agency problems.

7.8.5 Effects of Market-related Variables (MRV) on ISCR

Univariate analyses and multivariate analyses present slightly different findings for these variables. For multivariate analyses, with the effects of corporate characteristics statistically controlled for, the fifth model included all variables and revealed an adjusted R^2 value of more than 25%. Model 7e revealed that the market-related variables, however, contribute to only an additional 4.8% of the variance in the ISCR.

Results from univariate analyses showed that the type of industry has a significant positive association with ISCR, and this is consistent with Camfferman and Cooke (2002) and Haniffa and Cooke (2002). Results from mean ranks for the groups demonstrated that the Trading and Services sector disclosed more than the other sectors, and these findings are consistent with Haniffa (1999). Construction, Properties, and Industrial products sectors are found to disclose less information (also consistent with Haniffa, 1999). This suggests that each sector has developed different disclosure practices (Inchausti, 1997). This might be due to economic influences or historical reasons as suggested by Camfferman and Cooke (2002) or the nature of the business (Haniffa 1999). However, in the hierarchical multiple regression analysis, when 'Others' was set as a benchmark, three sectors (Industrial Products, Plantations, and Properties) were found to disclose less, and the difference in disclosure level was statistically significant.

Type of auditor (AUD) had a significant positive association with ISCR in both the univariate and the multivariate analyses. The results are consistent with Archambault and Archambault (2003), Inchausti (1997), Lopes and Rodrigues (2007), Makhija and Patton (2004), Naser et al. (2004), and Singhvi and Desai (1971). This indicates that more information is likely to be disclosed by companies that employ Big 4 auditors than by firms with non-Big 4 auditors. It also suggests that auditors in Malaysia perform their duties in line with the expectations of the public; i.e. they are able to influence the management to disclose items, at least to a minimum standard, as proposed by Singhi and Desai (1971).

With respect to foreign activities (FRNX), in univariate analyses, social disclosure in the Islamic context appeared to have no association with FRNX. The result is consistent with previous studies (Haniffa and Cooke, 2002; and Lopes and Rodrigues, 2007) even though the previous studies were carried out on voluntary disclosure issues. In contrast to the univariate analyses, multivariate analyses revealed that FRNX appeared to be statistically significant in the equation and this finding was similar to that of Archambault and Archambault (2003).

If findings from multivariate analysis are referred to, the possible reason for the association between the two variables is that companies may be inclined to disclose more in order to attract foreign investors. As stated in *Capital Market Development in Malaysia: History and Perspectives* (2004), in the late 1990s the *Shariah*-approved securities were in demand, not just by local investors but also from foreign investors as well. Another possible explanation is that companies are committed to disclosing more to fulfil the requirements of specific countries when these companies have, or intend to penetrate the international market and have business dealings with companies or stakeholders from those countries.

Table 7.28 summarises the empirical findings from both univariate and multivariate analyses.

Table 7.28 Summary of Empirical Findings from Univariate and Multivariate Analyses of Determinants of Islamic Social Disclosure (ISCR)

Panel A: Empirical Findings from Univariate Analysis

Hypotheses	Univariate	Accept H _a
H ₁ : Additional Rules and Regulations (ADR)	ns	x
Cultural Factors		
H ₂ : Ethnicity of Chairperson (EOC)	+sig*	√
H ₃ : Ethnicity of Managing Director (EMD)	+sig**	√
H ₄ : Ethnic Ownership Structure (EOS)	ns	x
H ₅ : Ethnic Composition of Directors on the Board (ECDB)	+sig**	√
H ₆ : Qualification of Directors in Accounting/Business (EDAB)	ns	x
H ₇ : Qualification of Directors in Islamic Studies (EDIS)	ns	x
Ownership-structure Variables		
H ₈ : Institutional Investor (INSIV)	+sig**	√
H ₉ : Top the Shareholder (TTSH)	+sig**	√
H ₁₀ : Family Members on the Board (FMB)	-sig**	√
Market-related Variables		
H ₁₁ : Type of Industry (INDS)	+sig*	√
H ₁₂ : Auditor Size (AUD)	+sig**	√
H ₁₃ : Foreign Activities (FRNX)	ns	x

Panel B: Empirical Findings from Multivariate Analysis

Hypotheses	Multivariate	Accept H _a
H ₁ : Additional Rules and Regulations (ADR)	ns	x
Cultural Factors		
H ₂ : Ethnicity of Chairperson (EOC)	ns	x
H ₃ : Ethnicity of Managing Director (EMD)	ns	x
H ₄ : Ethnic Ownership Structure (EOS)	ns	x
H ₅ : Ethnic Composition of Directors on the Board (ECDB)	ns	x
H ₆ : Qualification of Directors in Accounting/Business (EDAB)	ns	x
H ₇ : Qualification of Directors in Islamic Studies (EDIS)	ns	x
Ownership-structure Variables		
H ₈ : Institutional Investor (INSIV)	+sig*	√
H ₉ : Top the Shareholder (TTSH)	+sig*	√
H ₁₀ : Family Members on the Board (FMB)	ns	x
Market-related Variables		
H ₁₁ : Type of Industry (INDS)	mixed	√
H ₁₂ : Auditor Size (AUD)	+sig ^a	√
H ₁₃ : Foreign Activities (FRNX)	+sig*	√

Legends:

<i>ns</i> : not significant	<i>+sig</i> : positive relationship	<i>-sig</i> : negative relationship
<i>*sig</i> : significant at 5%	<i>**sig</i> : significant at 1%	<i>***sig</i> : significant at 0.1%
√ accept hypothesis	<i>x</i> : reject hypothesis	^a : Significant at 10%

7.9 Additional Analyses: Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Sub-Categories of Islamic Social Disclosure (ISCR)

Since the study of the ISCR on companies in Malaysia is still new, this section discusses the results obtained from hierarchical multiple regression analyses employed on sub-categories of the ISCR. The purpose of these analyses was to provide further understanding of the effect of the various variables on the specific themes included in the ISCR. Additionally, tests on each independent variable within the sub-categories of ISCR could also be one of the sensitivity tests performed to provide confidence in the robustness of the statistical results obtained (Field, 2005; Hair et al., 2006; Pallant, 2007; Tabachnick and Fidell, 2007).

Detailed results of the effects of the additional regulatory factor, cultural factor, ownership-structure, and market-related factor on Underlying Philosophy and Values (UPV), *Shariah* Supervisory Board (SSB), Products and/or Services (PS), *Zakat* (ZKT), Employees (EYS), Environment (NVRM), Community (CTY), and Islamic Terminology and Values (ITV) are presented in each sub-section below.

7.9.1 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Underlying Philosophy and Values (UPV)

Table 7.29 displays the hierarchical regression results for the variables.

Table 7.29: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting Underlying Philosophy and Values (UPV)

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R²	3.9%	5.2%	9.4%	13.1%	19.2%
Adjusted R²	2.1%	2.6%	4.2%	6.7%	9.9%
R² Change	3.9%	1.4%	4.2%	3.7%	6.2%
F-Value	2.178	1.974	1.802	2.064	2.051
p-value	.072 ^a	.071 ^a	.049 [*]	.013 [*]	.005 ^{**}
Constant	.082* (2.008)	.085*(2.090)	.052 (.889)	-.034 (-.473)	-.119 (-1.464)

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
Variables					
SIZE	-0.003 (-.645)	-0.003 (-.559)	.000 (-.086)	.002 (.437)	.004 (.688)
Profit	.070* (2.127)	.066* (2.004)	.071* (2.111)	.058^a (1.709)	.054 (1.602)
Gearing	-0.026 (-.835)	-0.026 (-.837)	-0.042 (-1.334)	-0.034 (-1.045)	-0.034 (-.977)
CMPLX	.000^a (1.858)	.001* (2.020)	.001* (2.326)	.001* (2.173)	.000 (1.307)
ADR₁		-0.005 (-.291)	-0.002 (-.144)	.005 (.286)	.006 (.351)
ADR₂		-.038^a (-1.746)	-.039^a (-1.808)	-.036^a (-1.694)	-.045* (-2.031)
EOC			.031^a (1.796)	.023 (1.366)	.021 (1.219)
EMD			.040 (1.360)	.028 (.957)	.031 (1.060)
EOS			-.124 (-1.107)	-.110 (-.957)	-.092 (-.807)
ECDB			-.024 (-.833)	-.033 (-1.189)	-.026 (-.935)
EDAB			.003 (.056)	.017 (.375)	.016 (.356)
EDIS			-.084 (-1.495)	-.085 (-1.524)	-.061 (-1.095)
INSIV				.033 (.795)	.026 (.629)
TTSH				.072 (1.359)	.078 (1.451)
FMB				-.081* (-2.247)	-.082* (-2.201)
INDS₁					.061 (1.589)
INDS₂					.053 (1.297)
INDS₃					.026 (.743)
INDS₄					.026 (.599)
INDS₅					.098* (2.510)
INDS₆					.058 (1.541)
AUD					.020 (1.182)
FRNX					.034* (1.985)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

For the first model to the fifth model, R² values showed a constant increase from 3.9% (Model 7a) to 19.2% (Model 7e). The changes in R² values are significantly more than zero. Control variables related to profitability ratio and business complexity remained statistically positively significant on the UPV, but ceased to be significant when market-related variables were included in the model.

With regard to additional regulatory factors, all models revealed that only ADR₂ remained statistically negatively significant with UPV. Since Appendix 6A showed that the item under UPV that had a higher percentage was “Focus on maximising shareholders’ returns”, the results indication of a negative association between ADR₂ and UPV suggests that companies grouped under DLL tend to disclose less about their commitment towards maximising shareholders return compared to SCC and SNC companies.

Stage 3 shows that the inclusion of cultural factors explained an additional 4.2% of the UPV score. Model 7c also revealed that the only cultural attribute that had an association with UPV was ethnicity of chairperson. This finding suggests that companies with a Malay chairperson tended to disclose information on their commitment towards maximising shareholders' return. However, EOC became insignificant once ownership-structure variables were included in the model.

In terms of ownership-structure variables, the only variable found to have a statistically significant association with UPV was the presence of family members on the Board (FMB). Therefore, results from Model 7d suggest that companies with a higher number of family members on the Board refused to disclose their commitment to maximise shareholders' return.

The full model (Model 7e) revealed that the variables that were statistically significant in explaining the variations in UPV were ADR_2 (DLL), FMB, $INDS_5$ (Properties), and FRNX, after controlling for the effect of corporate characteristics. Therefore, the findings suggest that companies within the DLL category that have a higher percentage of family members on the Board have a tendency not to disclose information related to their commitment to maximise shareholders' return. However, companies in the Properties sector and those involved with foreign activities were willing to disclose to a greater extent than the other groups.

7.9.2 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on *Shariah* Supervisory Board (SSB)

Table 7.30 below reveal the hierarchical regression results for the variables.

Table 7.30 : Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting SSB

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R²	0.5%	0.9%	2.9%	3.0%	5.0%
Adjusted R²	-1.4%	-1.9%	-2.6%	-4.1%	-6.0%
R² Change	0.5%	0.4%	2.1%	0%	2.1%
F-Value	.262	.315	.525	.419	.457
p-value	.902	.929	.897	.973	.985
Constant	.017 (.658)	.018 (.699)	.014 (.383)	.008 (.182)	.002 (.040)
Variables					
SIZE	-.002 (-.599)	-.002 (-.522)	-.002 (-.630)	-.002 (-.603)	-.002 (-.511)
Profit	.006 (.275)	.005 (.247)	.008 (.384)	.007 (.334)	.010 (.456)
Gearing	-.005 (-.262)	-.004 (-.191)	-.013 (-.669)	-.012 (-.586)	-.020 (-.871)
CMLPX	.000 (.731)	.000 (.850)	.000 (.851)	.000 (.846)	6.504E-5 (.344)
ADR₁		-.009 (-.815)	-.007 (-.684)	-.007 (-.613)	-.010 (-.887)
ADR₂		-.009 (-.642)	-.008 (-.614)	-.008 (-.594)	-.007 (-.471)
EOC			.000 (.015)	.000 (.013)	.002 (.158)
EMD			.021 (1.128)	.020 (1.072)	.019 (.996)
EOS			-.025 (-.357)	-.025 (-.347)	-.016 (-.215)
ECDB			.004 (.221)	.004 (.207)	.006 (.349)
EDAB			.005 (.164)	.005 (.156)	.009 (.287)
EDIS			-.006 (-.184)	-.007 (-.191)	.004 (.099)
INSIV				-3.918E-5 (-.001)	-.005 (-.173)
TTSH				.008 (.244)	.006 (.160)
FMB				-.001 (-.037)	.010 (.392)
INDS₁					-.008 (-.335)
INDS₂					-.004 (-.152)
INDS₃					-.009 (-.373)
INDS₄					-.018 (-.618)
INDS₅					-.004 (-.174)
INDS₆					.013 (.549)
AUD					.007 (.636)
FRNX					.010 (.941)

Legends:

*sig: significant at 5% **sig: significant at 1% ***sig: significant at 0.1%
^a: Significant at 10%

From Table 7.30 above it can be seen that none of the independent variables nor the control variables seems to have any association with SSB, as the SSB items were disclosed by one only company.

7.9.3 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Product and Services (PS)

Table 7.31 shows the hierarchical regression results for factors affecting PS.

Table 7.31: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting PS

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R2	12%	12.7%	16%	20.9%	24.8%
Adjusted R2	10.4%	10.3%	11.2%	15.2%	16.1%
R2 Change	12%	0.7%	3.2%	4.9%	3.9%
F-Value	7.405	5.231	3.314	3.634	2.839
p-value	<i>.000***</i>	<i>.000***</i>	<i>.000***</i>	<i>.000***</i>	<i>.000***</i>
Constant	<i>.519*** (5.346)</i>	<i>.525*** (5.405)</i>	<i>.453** (3.211)</i>	.108 (.628)	.147 (.751)
Variables					
SIZE	.004 (.318)	.005 (.422)	.009 (.644)	.014 (1.041)	.014 (1.063)
Profit	<i>.226** (2.872)</i>	<i>.221** (2.805)</i>	<i>.252** (3.138)</i>	<i>.204* (2.551)</i>	<i>.223** (2.756)</i>
Gearing	-.015 (-.203)	-.009 (-.124)	-.031 (-.409)	.007 (.095)	-.031 (-.380)
CMPLX	<i>.003*** (4.591)</i>	<i>.003*** (4.730)</i>	<i>.003*** (4.636)</i>	<i>.003*** (4.439)</i>	<i>.003*** (3.642)</i>
ADR₁		-.041 (-1.004)	-.039 (-.976)	-.010 (-.247)	-.026 (-.628)
ADR₂		-.058 (-1.129)	-.053 (-1.022)	-.047 (-.924)	-.062 (-1.173)
EOC			<i>.080* (1.954)</i>	<i>.067^a (1.646)</i>	<i>.077^a (1.877)</i>
EMD			.065 (.920)	.028 (.403)	.018 (.255)
EOS			-.368 (-1.379)	-.279 (-1.046)	-.272 (-.992)
ECDB			-.055 (-.819)	-.074 (-1.113)	-.056 (-.832)
EDAB			.011 (.102)	.032 (.286)	.046 (.416)
EDIS			.131 (.972)	.128 (.970)	.186 (1.388)
INSIV				<i>.169^a (1.728)</i>	.140 (1.416)
TTSH				<i>.269* (2.134)</i>	<i>.272* (2.098)</i>
FMB				-.123 (-1.437)	-.076 (-.850)
INDS₁					-.071 (-.764)
INDS₂					-.054 (-.546)
INDS₃					-.104 (-1.222)
INDS₄					-.150 (-1.439)
INDS₅					-.001 (-.013)
INDS₆					.027 (.300)
AUD					.009 (.228)
FRNX					.043 (1.045)

Legends:

*sig: significant at 5% **sig: significant at 1% ***sig: significant at 0.1%
^a: Significant at 10%

The full model (Model 7e) shows that after all the independent variables were included in the equation, the adjusted R² value of 16% indicates that more than 15% of the variability in PS could be predicted by the ethnicity of the chairperson and

top-ten shareholders, after controlling for the corporate characteristics. The profitability ratio and business complexity continued to show significant effects on the PS information for all the five models. However, the effect of institutional investors could only be seen as a significant factor on PS prior to the inclusion of market-related variables (see Model 7d).

7.9.4 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on ZAKAT (ZKT)

Table 7.32 below sets out the results related to hierarchical regression analyses on the association between the independent variables and ZKT.

Model 7a to Model 7e reveal consistent findings. R^2 values were significantly different from zero, with values from 2.5% to 17.3%. However, only Model 7c to 7e were found to be significant. Findings reveal that under control variables, only Size has a significant effect on the ZKT disclosure.

With regard to the cultural factors, ethnicity of managing director (EMD) had a significant result at the 5% level in Model 7c, Model 7d and Model 7e.

The results suggest that larger companies with a Malay managing director tend to disclose information related to ZKT in their annual reports. It is believed that the Malay managing directors of large companies, especially the profit making firms, are fully aware of their responsibilities to disclose the amount of *Zakat* paid in order to help Muslim investors to calculate the amount of *Zakat* they need to pay with respect to the returns they received.

The full model also reveals that none of the regulatory factors, ownership-structure variables, and market-related variables was found to have any significant effect on the decision to disclose information related to ZKT.

Table 7.32: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting ZKT

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R²	2.5%	4.2%	14.7%	15.6%	17.3%
Adjusted R²	0.7%	1.6%	9.8%	9.5%	7.7%
R² Change	2.5%	1.7%	10.5%	0.9%	1.7%
F-Value	1.403	1.580	3.005	2.545	1.804
p-value	.234	.154	.001***	.002**	.017*
Constant	-.111^a (-1.842)	-.111^a (-1.850)	-.110 (-1.306)	-.097 (-.926)	-.052 (-.429)
Variables					
SIZE	.018* (2.284)	.018* (2.345)	.016* (2.085)	.019* (2.343)	.020* (2.431)
Profit	-.001 (-.020)	.004 (.078)	.023 (.471)	.023 (.479)	.018 (.349)
Gearing	.037 (.814)	.044 (.976)	-.005 (-.102)	-.012 (-.252)	-.034 (-.662)
CMPLX	1.260E-5 (.033)	3.889E-5 (.100)	5.817E-5 (.154)	-1.386E-5 (-.035)	-5.207E-5 (-.122)
ADR₁		-.038 (-1.507)	-.032 (-1.324)	-.033 (-1.351)	-.041 (-1.590)
ADR₂		.025 (.782)	.028 (.912)	.029 (.937)	.021 (.641)
EOC			-.002 (-.067)	-.008 (-.328)	-.003 (-.101)
EMD			.093* (2.213)	.091* (2.138)	.092* (2.106)
EOS			-.167 (-1.054)	-.171 (-1.052)	-.144 (-.848)
ECDB			.045 (1.117)	.037 (.921)	.043 (1.038)
EDAB			-8.343E-5 (-.001)	.016 (.239)	.023 (.342)
EDIS			-.040 (-.504)	-.038 (-.474)	-.023 (-.279)
INSIV				.002 (.031)	-.003 (-.049)
TTSH				-.032 (-.417)	-.055 (-.685)
FMB				-.073 (-1.404)	-.057 (-1.038)
INDS₁					-.037 (-.639)
INDS₂					-.063 (-1.033)
INDS₃					-.080 (-1.527)
INDS₄					-.059 (-.911)
INDS₅					-.056 (-.969)
INDS₆					-.057 (-1.022)
AUD					.017 (.693)
FRNX					.017 (.676)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

7.9.5 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Employees (EYS)

Table 7.33 below provides the full result from the analysis.

Table 7.33: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting EYS

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R2	10.1%	10.7%	17%	21%	26.6%
Adjusted R2	8.5%	8.2%	12.2%	15.3%	18.1%
R2 Change	10.1%	0.6%	6.2%	4.1%	5.6%
F-Value	6.113	4.303	3.557	3.656	3.121
p-value	.000***	.000***	.000***	.000***	.000***
Constant	.325*** (3.626)	.327*** (3.636)	.410** (3.202)	.146 (.930)	.194 (1.096)
Variables					
SIZE	-.016 (-1.372)	-.015 (-1.302)	-.012 (-1.306)	-.007 (-.602)	-.005 (-.425)
Profit	.294*** (4.046)	.297*** (4.065)	.314*** (4.305)	.278*** (3.818)	.272*** (3.714)
Gearing	-.011 (-.163)	-.003 (-.050)	-.048 (-.695)	-.029 (-.415)	-.078 (-1.046)
CMPLX	.001** (2.245)	.001*** (2.314)	.001* (2.507)	.001* (2.123)	.001^a (1.831)
ADR₁		-.042 (-1.124)	-.038 (-1.046)	-.017 (-.452)	-.034 (-.920)
ADR₂		.004 (.078)	.019 (.399)	.022 (.474)	.026 (.548)
EOC			.048 (1.290)	.034 (.909)	.041 (1.113)
EMD			.035 (.547)	.007 (.115)	.009 (.135)
EOS			-.077 (-.318)	.016 (.064)	.103 (.415)
ECDB			.084 (1.361)	.066 (1.078)	.078 (1.285)
EDAB			-.149 (-1.474)	-.123 (-1.225)	-.101 (-1.019)
EDIS			-.047 (-.384)	-.045 (-.372)	-.017 (-.140)
INSIV				.177* (1.977)	.166^a (1.860)
TTSH				.140 (1.216)	.089 (.757)
FMB				-.125 (-1.601)	-.077 (-.960)
INDS₁					-.121 (-1.446)
INDS₂					-.114 (-1.279)
INDS₃					-.138^a (-1.802)
INDS₄					-.066 (-.699)
INDS₅					-.168* (-1.982)
INDS₆					-.107 (-1.316)
AUD					.083* (2.304)
FRNX					.045 (1.229)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

For Model 7a to Model 7e, the adjusted R^2 values increased from 8.5% to 18.1%. The addition of regulatory factors in the model did not reliably improve much on the R^2 .

With all independent variables in the equation, 18% of the variability in EYS disclosure could be predicted by the higher rate of institutional investors and existence of a Big-4 auditor. Additionally, the result also produced mixed findings on the effect of type of industry. Companies categorised under Industrial Products (INDS₃) and Properties (INDS₅) were found to be negatively related, to a statistically significant extent, with level of EYS.

Control variables related to profitability ratios and business complexity continued to show significant effects on the disclosure of EYS information. The effects of other variables were not statistically significant.

7.9.6 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Environment

Table 7.34 below displays the findings.

From the table, it can be seen that the R^2 values show an increase from 4.2% to 21% from Model 7a to Model 7e. Consistent with PS and EYS, the control variables that had a significant effect on the NVRM models were profitability ratio and business complexity. However, the size of companies also became significant after the inclusion of market-related variables.

With regard to cultural factors, Model 7c shows that the ethnic ownership structure (EOS) had a significant effect on NVRM. However, the effect of EOS failed to maintain significance after ownership-structure and market-related variables were included in the model (Model 7d and Model 7e).

In the full model (Model 7e) regulatory factors, cultural factors, and ownership-structure variables were found to have no significant effect on NVRM. Those variables did not have any significant influence on the management's decision to disclose NVRM-related information. Nevertheless, among market-related factors, only type of industry was found to have a significant effect on NVRM, and the relationship was found to be in a negative direction. As the 'Others' sector was used as a benchmark, all companies (except companies categorised under the Plantation sector) were found to disclose less information related to environment policies and commitment towards environmental activities.

Table 7.34: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting NVRM

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R2	4.2%	5.4%	9.4%	11.7%	21%
Adjusted R2	2.4%	2.8%	4.2%	5.3%	11.8%
R2 Change	4.2%	1.2%	4%	2.3%	9.2%
F-Value	2.365	2.051	1.811	1.824	2.284
p-value	.054^a	.060^a	.048*	.033*	.001***
Constant	.347^a (1.927)	.361* (2.007)	.600* (2.303)	.181 (.558)	.383 (1.074)
Variables					
SIZE	.023 (.981)	.026 (1.114)	.028 (1.171)	.034 (1.386)	.040^a (1.651)
Profit	.304* (2.078)	.296* (2.028)	.348* (2.346)	.288^a (1.924)	.260^a (1.762)
Gearing	-.092 (-.682)	-.075 (-.555)	-.099 (-.708)	-.049 (-.344)	-.168 (-1.119)
CMPLEX	.002* (2.106)	.003* (2.322)	.003* (2.184)	.003* (2.084)	.003* (2.195)
ADR₁		-.111 (-1.482)	-.120 (-1.607)	-.084 (-1.102)	-.116 (-1.537)
ADR₂		-.111 (-1.161)	-.099 (-1.033)	-.091 (-.951)	-.052 (-.538)
EOC			.073 (.965)	.058 (.757)	.082 (1.100)
EMD			.152 (1.160)	.106 (.807)	.121 (.942)
EOS			-.862^a (-1.747)	-.763 (-1.520)	-.519 (-1.037)
ECDB			-.065 (-.517)	-.087 (-.696)	-.080 (-.648)
EDAB			-.310 (-1.508)	-.287 (-1.386)	-.234 (-1.165)
EDIS			.273 (1.097)	.267 (1.080)	.244 (1.001)
INSIV				.189 (1.024)	.196 (1.090)
TTSH				.349 (1.475)	.217 (.920)
FMB				-.147 (-.917)	-.085 (-.524)
INDS₁					-.317^a (-1.884)
INDS₂					-.400* (-2.229)
INDS₃					-.298* (-1.920)
INDS₄					-.138 (-.724)
INDS₅					-.541* (-3.165)
INDS₆					-.383* (-2.340)
AUD					.103 (1.420)
FRNX					.093 (1.257)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

7.9.7 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Community (CTY)

Table 7.35 below provides the results obtained from the hierarchical analyses performed to examine the effects of the independent and control variables on CTY.

Table 7.35: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting CTY

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R2	7.6%	7.7%	14.6%	22.8%	27.3%
Adjusted R2	5.9%	5.2%	9.7%	17.2%	18.8%
R2 Change	7.6%	0.2%	6.8%	8.3%	4.4%
F-Value	4.434	3.002	2.968	4.065	3.230
p-value	.002**	.008**	.001***	.000***	.000***
Constant	.318** (3.041)	.320** (3.042)	.452** (3.026)	.014 (.079)	.085 (.423)
Variables					
SIZE	.002 (.147)	.003 (.188)	.003 (.230)	.011 (.847)	.015 (1.083)
Profit	.216* (2.546)	.217* (2.539)	.260** (3.048)	.199** (2.403)	.204* (2.441)
Gearing	-.042 (-.538)	-.037 (-.473)	-.077 (-.967)	-.042 (-.535)	-.132 (-1.557)
CMPLX	.002*** (3.358)	.002*** (3.377)	.002*** (3.389)	.002** (3.007)	.002** (2.667)
ADR₁		-.028 (-.631)	-.030 (-.694)	.007 (.157)	-.018 (-.426)
ADR₂		-.005 (-.090)	.006 (.103)	.012 (.225)	.008 (.153)
EOC			.016 (.375)	-.007 (-.155)	.009 (.204)
EMD			.079 (1.058)	.032 (.445)	.035 (.479)
EOS			-.620* (-2.190)	-.478^a (-1.723)	-.388 (-1.369)
ECDB			.077 (1.079)	.048 (.689)	.078 (1.116)
EDAB			-.173 (-1.462)	-.132 (-1.151)	-.098 (-.857)
EDIS			.026 (.181)	.028 (.203)	.082 (.593)
INSIV				.273** (2.684)	.246* (2.411)
TTSH				.260* (1.985)	.220 (1.644)
FMB				-.206* (-2.327)	-.140 (-1.520)
INDS₁					-.145 (-1.514)
INDS₂					-.170^a (-1.668)
INDS₃					-.178* (-2.025)
INDS₄					-.245* (-2.270)
INDS₅					-.173^a (-1.783)
INDS₆					-.120 (-1.295)
AUD					.064 (1.573)
FRNX					.075^a (1.790)

Legends:

*sig: significant at 5% **sig: significant at 1% ***sig: significant at 0.1%
^a: Significant at 10%

Table 7.35 shows that R² values increase markedly from 7.6% (Model 7a) to 27.3% (Model 7e). Profitability ratio and business complexity have statistically significant

associations with the dependent variable (CTY). However, the inclusion of regulatory factors did not produce any significant impact in Model 7b. Model 7c shows that when cultural factors were included in the model, EOS was found to be statistically significant with CTY at the 5% level and continued to be significant at the 10% level even after the inclusion of ownership-structure variables. However, the relationship of EOS and CTY became insignificant after the inclusion of market-related factor variables.

With respect to the ownership-structure variables, top-ten shareholders and family member on board were found to be significant in Model 7d but ceased to be significant in Model 7e.

Therefore, the full model (Model 7e) showed that the variables that had a significant effect on CTY were institutional investors (INSIV), foreign activities (FRNX), and some of the industry (INDS₂, INDS₃, INDS₄, INDS₅) after controlling for the influence of corporate characteristics factors. The full model revealed that having a high percentage of institutional investors and involvement of companies with foreign activities were conditions that were able to force the management to disclose more information related to a firm's commitment and contribution to community wellbeing. However, the presence of different industries would have different levels of disclosure and the findings revealed that companies categorised under Consumer Products, Industrial Products, Plantation and Properties tended to disclose less information in respect to their commitment towards community activities.

7.9.8 Effects of Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on Islamic Terminology and Value (ITV)

Table 7.36 below provides the results obtained from the hierarchical analyses performed to examine the effects of the independent and control variables on ITV.

Table 7.36: Hierarchical Regression Results (*Unstandardised coefficients*) for Factors Affecting ITV

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R2	1.2%	1.8%	5.6%	5.7%	11.2%
Adjusted R2	-0.6%	-0.9%	0.1%	-1.1%	0.8%
R2 Change	1.2%	0.6%	3.7%	0.2%	5.4%
F-Value	.663	.672	1.024	.834	1.081
p-value	.618	.673	.428	.639	.370
Constant	.053 (1.495)	.055 (1.548)	.045 (.876)	.023 (.356)	.071 (.968)
Variables					
SIZE	-.005 (-1.110)	-.005 (-1.011)	-.004 (-.890)	-.004 (-.795)	-.005 (-1.048)
Profit	.004 (.145)	.003 (.106)	.012 (.399)	.009 (.288)	.017 (.562)
Gearing	-.030 (-1.142)	-.028 (-1.052)	-.035 (-1.285)	-.033 (-1.161)	-.028 (-.897)
CMPLX	.000 (.583)	.000 (.741)	.000 (.782)	.000 (.714)	.000 (.573)
ADR₁		-.015 (-1.008)	-.014 (-.960)	-.012 (-.808)	-.018 (-1.143)
ADR₂		-.016 (-.863)	-.011 (-.579)	-.011 (-.555)	-.010 (-.508)
EOC			.002 (.114)	.001 (.053)	.004 (.287)
EMD			-.028 (-1.073)	-.030 (-1.142)	-.040 (-1.504)
EOS			-.029 (-.294)	-.022 (-.223)	-.040 (-.392)
ECDB			.059* (2.378)	.057* (2.291)	.054* (2.137)
EDAB			-.002 (-.042)	.000 (-.006)	.001 (.035)
EDIS			-.007 (-.141)	-.007 (-.142)	.005 (.108)
INSIV				.012 (.322)	.006 (.168)
TTSH				.016 (.332)	.011 (.227)
FMB				-.008 (-.257)	.013 (.399)
INDS₁					-.028 (-.800)
INDS₂					-.015 (-.408)
INDS₃					-.021 (-.676)
INDS₄					-.034 (-.866)
INDS₅					-.030 (-.846)
INDS₆					.028 (.829)
AUD					-.007 (-.490)
FRNX					-.028^a (-1.834)

Legends:

*sig: significant at 5% **sig: significant at 1% ***sig: significant at 0.1%

^a: Significant at 10%

With regard to ITV, the only item disclosed was greetings (*Salam*). Results as presented in Table 7.36 above revealed that no significant relationship existed

between ITV and the corporate characteristics, regulatory factor, or ownership-structure variables.

Model 7c, 7d and 7e revealed that ethnic composition of Directors on the Board (ECDB) was statistically significant with ITV. With regard to market-related factors, the full model revealed that only foreign activities (FRNX) had a significant effect on ITV.

The findings indicate that the existence of more Malays on the Board of Directors and involvement of companies in foreign activities were able to influence the management to include elements of ITV in firms' annual reports. Furthermore, the effect produced a very low level of significance (less than 1%).

7.9.9 Summary of the Empirical Findings on the Relationship between Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on all Sub-categories of ISCR.

Based on the above findings (Sections 7.9.1 to section 7.9.8), it can be seen that each variable had a different effect on different categories, and in this way the study was able to highlight which factors were statistically significant in explaining the variations in sub-categories of ISCR. Table 7.37 summarises the empirical findings on the relationships between Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on all the sub-categories of ISCR.

Table 7.37: Summary of the Empirical Findings on the Relationship between Additional Regulatory Factor, Cultural Factor, Ownership-structure, and Market-related Factor on all Sub-categories of ISCR

	UPV	SSB	PS	ZKT	EYS	NVRM	CTY	ITV
R²	19.2%	5.0%	24.8%	17.3%	26.6%	21%	27.3%	11.2%
Adjusted R²	9.9%	-6.0%	16.1%	7.7%	18.1%	11.8%	18.8%	0.8%
R² Change	6.2%	2.1%	3.9%	1.7%	5.6%	9.2%	4.4%	5.4%
F-Value	2.051	.457	2.839	1.804	3.121	2.284	3.230	1.081
p-value	<i>.005**</i>	.985	<i>.000***</i>	<i>.017*</i>	<i>.000***</i>	<i>.001***</i>	<i>.000***</i>	.370
Constant	-.119 (-1.464)	.002 (.040)	.147 (.751)	-.052 (-.429)	.194 (1.096)	.383 (1.074)	.085 (.423)	.071 (.968)
CONTROL VARIABLES: CORPORATE CHARACTERISTICS								
SIZE				<i>.020*</i> (2.431)		<i>.040^a</i> (1.651)		
Profit			<i>.223**</i> (2.756)		<i>.272***</i> (3.714)	<i>.260^a</i> (1.762)	<i>.204*</i> (2.441)	.
Gearing								
CMPLEX			<i>.003***</i> (3.642)		<i>.001^a</i> (1.831)	<i>.003*</i> (2.195)	<i>.002**</i> (2.667)	
REGULATORY FACTOR								
ADR₁								
ADR₂	<i>-.045*</i> (-2.031)							
CULTURAL FACTORS								
EOC			<i>.077^a</i> (1.877)					
EMD				<i>.092*</i> (2.106)				
EOS								
ECDB								<i>.054*</i> (2.137)
EDAB								
EDIS								
OWNERSHIP-STRUCTURE VARIABLES								
INSIV					<i>.166^a</i> (1.860)		<i>.246*</i> (2.411)	
TTSH			<i>.272*</i> (2.098)					
FMB	<i>-.082*</i> (-2.201)							

	UPV	SSB	PS	ZKT	EYS	NVRM	CTY	ITV
MARKET-RELATED VARIABLES								
INDS ₁						-.317 ^a (-1.884)		
INDS ₂						-.400* (-2.229)	-.170 ^a (-1.668)	
INDS ₃					-.138 ^a (-1.802)	-.298* (-1.920)	-.178* (-2.025)	
INDS ₄							-.245* (-2.270)	
INDS ₅	.098* (2.510)				-.168* (-1.982)	-.541* (-3.165)	-.173 ^a (-1.783)	
INDS ₆						-.383* (-2.340)		
AUD					.083* (2.304)			
FRNX	.034* (1.985)						.075 ^a (1.790)	-.028 ^a (-1.834)

Legends:

*sig: significant at 5% **sig: significant at 1% ***sig: significant at 0.1%
^a: Significant at 10%

Results show that Gearing, additional regulatory factor (ADR₁), ethnic composition of shareholders (EOS), education of Directors on the Board in accounting, business, or Islamic studies (EDAB and EDIS) had no significant effect on any of the sub-categories of ISCR. However, the first model in the table revealed that ADR₂ was found to have a statistically significant negative relationship with UPV.

With regard to the corporate characteristics, size of firm was associated with ZKT and NVRM. Profitability ratio and business complexity were associated with PS, EYS, NVRM and CTY.

None of the independent variables were found to have a significant effect on the SSB theme.

Cultural factors, such as ethnicity of chairperson (EOC), was related to the disclosure of items under the PS theme; ethnicity of managing director (EMD) was related to information disclosed under ZKT; and a higher proportion of Malay directors on the board (ECDB) was able to influence management to disclose items related to ITV.

Table 7.37 also reveals that with regards to ownership-structure variables, the presence of institutional investors (INSIV) was found to have a significant effect on the disclosure of items related to EYS and CTY themes; top-ten shareholders (TTSH) was found to have a significant association with PS themes; and presence of family members on board (FMB) was found to have a significant relationship with UPV themes.

Additionally, when referring to market-related factors, type of industry (INDS) was found to have a significant effect on the UPV, EYS, NVRM, CTY and ITV themes; type of auditor (AUD) was found to have a significant effect on EYS; and foreign activities had a significant effect on UPV, CTY and ITV.

To conclude the findings from this section, the results suggest that more profitable companies with more subsidiaries were more likely to disclose information about their products and/or services, their concern for the employees' welfare and staff development, their involvement and seriousness about environmental issues, and their commitment towards society than companies that were less profitable and with fewer subsidiaries. Bigger firms would also give greater consideration to environmental issues.

The results also suggest that companies categorised as DLL which have a higher percentage of family members would disclose less information related to their commitment to maximise shareholders' returns. Companies in the Properties sector and those more involved in foreign activities tended to disclose more as compared to other sectors about their underlying philosophy and values.

Companies with a Malay chairperson and a higher concentration of ownership (using the proxy of shares held by top-ten shareholders) would disclose more information about their products or/and services compared to others.

It could also be seen that more wealthy companies (using the proxy of Size) with Malay managing directors would disclose information about their commitment on

the *Zakat* payment. More Malays on the Board of Directors would also encourage the management to incorporate Islamic terminology or values in the annual report.

Companies categorised under Industrial Products sectors and Properties were found to disclose less information on the employees theme. All sectors except Plantations disclosed less information in relation to environmental issues. All sectors except Consumer Products and Trading and Services disclosed less information with regard to their commitment on activities related to society.

From the results, it also evident that the presence of a higher percentage of institutional investors could influence firms to disclose information related to employee and community welfare. The presence of large audit firm was important in respect to the disclosure of employees' welfare.

Finally, when referring to companies that were involved in foreign activities, it can be seen that this type of company would make disclosures to the stakeholders about their underlying philosophy and values, and their commitment towards community activities.

7.10 Conclusion

This chapter provided detailed discussions of the factors expected to influence management decisions related to the distribution and dissemination of specific information to the stakeholders through companies' annual reports. The variables and developments of hypotheses were based on previous empirical studies related to issues such as voluntary disclosure, mandatory disclosure, corporate social reporting, and Islamic social reporting. However, this study was conducted in a different setting and context. It appears to be the first study to examine the impact of additional regulations, culture, ownership-structure, and market-related factors with Islamic social disclosure in companies, specifically companies in consumer products, constructions, industrial products, plantations, properties, trading and services,

infrastructure and technologies sectors which are listed on Bursa Malaysia's main board. It should be emphasised that the sample included was not limited only to *Shariah*-compliant companies (SCCs).

In addition to the above, the chapter has provided a detailed explanation of sample selection and data sources; it has discussed the measurement of dependent and independent variables; and it has reported the analyses and test statistics employed.

This chapter continues with a discussion on empirical findings revealed by the correlation tests, parametric and non-parametric tests, as well as the results from regression equations in which the multiple relationships between variables are presented. Results from the univariate analyses, which were performed to examine the relationship of ISCR score with several variables such as additional regulatory factors, cultural factors, ownership-structure variables, market-related variables, and corporate characteristics, were presented. In the analyses, both parametric and non-parametric tests were carried out because the distributions of the value of each variable are not normal. In addition to that, it was necessary to carry out this procedure in order to avoid the risk of incorrectly rejecting a hypothesis.

Subsequently, results of the analyses carried out using hierarchical multiple regressions, which were performed to examine the relationship of ISCR score with the same variables, were presented. The analyses were performed on the untransformed data. The chapter continued with a discussion of the findings, related the results with results reported by previous studies, and suggested other possible explanations of the findings. In order to increase confidence in the previous statistical results, as well as to give further insight on the ISCR issues, the final section of the chapter presented the results of the analyses performed on the sub-categories of ISCR, using the same variables. A summary of the results is presented in Table 7.38 below.

Table 7.38: Summary of Empirical Findings from Univariate and Multivariate Analyses of Variables Examined on Islamic Social Reporting (ISCR) Score and Multivariate Analyses on Sub-Categories of ISCR

Hypotheses	UV	MV (ISCR)	MV (UPV)	MV (SSB)	MV (PS)	MV (ZKT)	MV (EYS)	MV (NVRM)	MV (CTY)	MV (ITV)
H1: Additional Rules and Regulations (ADR)	ns	ns	mixed	ns	ns	ns	ns	ns	ns	ns
Cultural Factors										
H2: Ethnicity of Chairperson (EOC)	+sig*	ns	ns	ns	+sig*	ns	ns	ns	ns	ns
H3: Ethnicity of Managing Director (EMD)	+sig**	ns	ns	ns	ns	+sig*	ns	ns	ns	ns
H4: Ethnic Ownership Structure (EOS)	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
H5: Ethnic Composition of Directors on the Board (ECDB)	+sig**	ns	ns	ns	ns	ns	ns	ns	ns	+sig*
H6: Qualification of Directors in Accounting/Business (EDAB)	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
H7: Qualification of Directors in Islamic Studies (EDIS)	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
Ownership-structure Variables										
H8: Institutional Investor (INSIV)	+sig**	+sig*	ns	ns	ns	ns	+sig*	ns	+sig*	ns
H9: Top the Shareholder (TTSH)	+sig**	+sig*	ns	ns	+sig*	ns	ns	ns	ns	ns
H10: Family Members on the Board (FMB)	-sig**	ns	-sig*	ns	ns	ns	ns	ns	ns	ns
Market-related Variables										
H11: Type of Industry (INDS)	+sig*	mixed	mixed	ns	ns	ns	mixed	mixed	mixed	ns
H12: Auditor Size (AUD)	+sig**	+sig ^a	ns	ns	ns	ns	+sig*	ns	ns	ns
H13: Foreign Activities (FRNX)	ns	+sig*	+sig*	ns	ns	ns	ns	ns	+sig*	-sig*

Legends:

ns: not significant +sig: positive relationship -sig: negative relationship
 *sig: significant at 5% **sig: significant at 1% ***sig: significant at 0.1%
^a: Significant at 10%

ISCR: Islamic Social Disclosure Score UPV: Underlying Philosophy and Value
 SSB: Shariah Supervisory Board PS: Product or Service
 ZKT: Zakat EYS: Employees
 NVRM: Environmental information CTY: Community
 ITV: Islamic Terminology & Value

Table 7.38 shows that four variables, namely institutional investors, top-ten shareholders, type of industry, and type of auditor were found to be **significant** in the univariate as well as in the hierarchical multiple regression analyses. Therefore, the findings reject the null hypotheses developed in this study:

H₈: *Ceteris paribus*, there is no association between a high proportion of shares held by institutional investors and the level of ISCR.

H₉: *Ceteris paribus*, there is no association between a high proportion of shares held by top-ten shareholders and the level of ISCR.

H₁₁: *Ceteris paribus*, there is no association between industry type and the level of ISCR.

H₁₂: *Ceteris paribus*, there is no association between size of auditing firm and the level of ISCR.

Additionally, it can also be seen from Table 7.38 that four variables, additional regulatory factors and cultural factors (EOS, EDAB, and EDIS), were found to be **insignificant** based on both the univariate and all the hierarchical multiple regression analyses. Therefore, the findings appear to accept the following null hypotheses:

H₁: *Ceteris paribus*, there is no association between company status (as SCC) and the level of ISCR.

H₄: *Ceteris paribus*, there is no association between the proportion of Malay directors on the Board and the level of ISCR.

H₆: *Ceteris paribus*, there is no association between Accounting and/or Business educational qualifications of Board members and the level of ISCR.

H₇: *Ceteris paribus*, there is no association between Islamic educational qualifications of Board members and the level of ISCR.

Four variables (EOC, EMD, ECDB and FMB) were found to be statistically significant in the univariate analyses but insignificant in the hierarchical multiple regression analyses, and significant in only one out of the 8 themes. Therefore, because of these inconclusive results, the following null hypotheses are subject to further investigation in future studies:

H₂: *Ceteris paribus*, there is no association between the presence of a Malay chairperson and the level of ISCR.

H₃: *Ceteris paribus*, there is no association between the presence of a Malay managing director and the level of ISCR.

H₅: *Ceteris paribus*, there is no association between the proportion of Malay shareholdings and the level of ISCR.

H₁₀: *Ceteris paribus*, there is no association between a high proportion of family members on the Board and the level of ISCR.

In addition, one variable, namely foreign activities (FRNX), was found to be insignificant in the univariate analyses, but significant in the hierarchical multiple regression. It has also been found to be statistically significant with UPV, CTY and ITV when analyses were carried out on individual themes. Therefore, this study considered this variable to have an important effect on the level of ISCR. Thus, the following hypothesis is also rejected:

H₁₃: *Ceteris paribus*, there is no association between company involvement in foreign activities and the level of ISCR.

This study expected that with the existence of Islamic Capital Market on the Bursa Malaysia, the significant increase in the number of companies granted SCC status, and the additional layer of regulation, namely *Shariah* Law imposed on the SCCs, management would disclose more comprehensive, relevant, and material information to the stakeholders because it is necessary for the stakeholders to understand the nature of the firms they are dealing with. Furthermore, the stakeholders, specifically Muslim investors, are responsible for ensuring that the company they invest in fulfils all the *Shariah* requirements. The ISCR information is vital to assist them to make economic-religious decisions, and to perform their duties as vice-regents of *Allah* peacefully.

Contrary to expectations but consistent with results previously revealed in Chapter 6, the empirical findings from this chapter demonstrate that the level of Islamic social disclosure of SCCs was similar to those of SNCs and DLLs; ISCR was not associated with additional regulatory practices in the companies. However, it was associated with several ownership-related variables (institutional investors, top-ten shareholders), market-related variables (industry type, auditor size, foreign activities). Results also showed that ISCR was not associated with cultural factors.

Limited to the information provided in annual reports, the findings revealed that information asymmetry still exists. The stakeholders cannot depend merely on the firms' status and annual reports to ensure that they are fully aware of the nature of the firms. Information provided in the annual reports is not sufficient for them to examine whether the firm they invested in fulfils all the *Shariah* requirements, nor whether the objectives of ICM, that is to offer socially responsible and ethical investments, are actually realised by the SCCs.

ISCR is still in its formative years. Nevertheless, the positive significant relationship between institutional investors and top-ten shareholders and the level of ISCR, suggests that the level of influence of such investors, regardless of any rules or regulations imposed on the firms, is able to force the management to disclose

specific information that they require and this is consistent with Jaggi and Low's (2002) views.

With regard to Signalling Theory, this study finds that the auditor's reputation and the firm's involvement in foreign activities can act as important indicators to the stakeholders about the quality of information provided by the management. In line with Institutional Theory, mixed results from the analysis of the relationship between type of industry and ISCR confirmed that management teams within the same industry would adhere to stakeholders' demands for specific information. However, in this study, Environmental Determinism Theory was found to have minimal impact on ISCR, except for when the cultural factors were tested on the sub-categories of ISCR.

The practical implications of the findings, as well as limitations and recommendations for future research related to Islamic social disclosure and its determinants are further discussed in Chapter 9. The next chapter discusses and reports the findings on the relationship between Earnings Quality (EQ) and Islamic social disclosure.

Appendix 7A: Pearson Correlation among Dependent, Independent and Control Variables

	ISCR	SIZE	GEAR	CMPLX	Profit	ADR ₁	ADR ₂	EOC	EMD	EOS	ECDB	EDAB	EDIS	INSIV	TTSH	FMB
ISCR	1	-.037														
CORPORATE CHARACTERISTICS																
SIZE	-.037	1														
Gearing	.027	-.092	1													
CMPLX	.261**	-.074	.103	1												
Profit	.246**	-.032	.129	.012	1											
ADDITIONAL REGULATORY																
ADR₁	-.044	.042	.103	.093	.036	1										
ADR₂	-.018	.036	-.022	.078	-.075	-.266**	1									
CULTURAL FACTORS																
EOC	.131	-.187**	.127	-.049	-.037	-.028	-.075	1								
EMD	.188**	.067	.222**	.013	-.010	-.033	.007	.354**	1							
EOS	-.051	.050	.068	-.027	.159*	-.043	-.028	.061	.132*	1						
ECDB	.164*	.016	.159*	-.001	-.056	-.006	-.065	.445**	.778**	.116	1					
EDAB	-.068	.039	.063	.015	-.050	-.077	.069	.181**	.016	.011	.096	1				
EDIS	.029	.119	-.036	.136*	-.088	.062	-.056	-.012	.015	-.009	.000	.022	1			

Appendix 7A: Pearson Correlation among Dependent, Independent and Control Variables (cont.)

	ISCR	SIZE	Gearing	CMPLX	Profit	ADR ₁	ADR ₂	EOC	EMD	EOS	ECDB	EDAB	EDIS	INSIV	TTSH	FMB
OWNERSHIP-STRUCTURE VARIABLES																
INSIV	<i>.340**</i>	-.079	.036	<i>.195**</i>	.074	<i>-.142*</i>	.073	.102	<i>.149*</i>	<i>-.154*</i>	.127	-.003	-.019	1		
TTSH	<i>.189**</i>	.047	<i>-.206**</i>	<i>-.216**</i>	.106	<i>-.218**</i>	-.017	.050	<i>.162*</i>	.048	<i>.134*</i>	.029	.000	<i>.241**</i>	1	
FMB	<i>-.258**</i>	<i>.246**</i>	<i>-.133*</i>	-.067	-.037	.000	.073	<i>-.325**</i>	<i>-.316**</i>	-.062	<i>-.351**</i>	.097	.031	<i>-.193**</i>	.001	1
MARKET RELATED VARIABLES																
INDS₁	.023	-.096	-.027	-.082	<i>.184*</i>	-.028	.016	-.049	-.076	-.027	-.052	-.014	-.054	-.016	<i>.182**</i>	.035
INDS₂	-.075	.049	.094	.047	-.026	.031	-.004	.048	-.088	<i>.208**</i>	-.080	.053	.072	-.116	-.107	.089
INDS₃	<i>-.134*</i>	.010	-.028	<i>-.165*</i>	-.050	-.019	<i>-.151*</i>	.015	-.090	-.046	-.066	-.004	.052	-.081	-.054	.078
INDS₄	.039	.051	<i>-.149*</i>	.048	.010	-.044	-.030	.039	.094	-.020	<i>.133*</i>	.049	.084	-.007	.097	.053
INDS₅	-.092	.051	-.100	.027	-.084	<i>-.142*</i>	<i>.271**</i>	-.023	-.044	-.027	-.082	.066	-.054	.038	-.105	.103
INDS₆	<i>.201**</i>	-.050	.041	<i>.227**</i>	-.020	.121	-.091	.042	<i>.204**</i>	-.031	<i>.197**</i>	-.070	-.062	<i>.148*</i>	.022	<i>-.267**</i>
AUD	<i>.187**</i>	-.106	.008	-.025	.056	.003	.020	.058	-.011	-.104	-.034	-.047	<i>-.135*</i>	.117	.054	<i>-.166*</i>
FRNX	<i>.131*</i>	<i>-.132*</i>	<i>.214**</i>	<i>.231**</i>	.044	.120	-.105	-.098	<i>-.178**</i>	-.094	<i>-.180**</i>	-.059	.024	.013	-.132	.042

Appendix 7A: Pearson Correlation among Dependent, Independent and Control Variables (cont.)

	INDS ₁	INDS ₂	INDS ₃	INDS ₄	INDS ₅	INDS ₆	AUD	FRNX
MARKET RELATED VARIABLES								
INDS ₁	1							
INDS ₂	-.129	1						
INDS ₃	-.276**	-.221**	1					
INDS ₄	-.188	-.095	-.203**	1				
INDS ₅	-.161*	-.129	-.276**	-.118	1			
INDS ₆	-.184**	-.148*	-.316**	-.136*	-.184**	1		
AUD	-.081	-.094	.088	.083	-.081	-.013	1	
FRNX	.010	.066	.063	.001	-.236**	.076	.081	1

Legends:

-sig: negative relationship

+sig: positive relationship

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

Appendix 7B: Tolerance and Variance Inflation Factor (VIF) Values

Variables	Collinearity Statistics	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
CMPLX	Tolerance	.985	.966	.938	.842	.747
	VIF	1.015	1.035	1.066	1.187	1.339
Profit	Tolerance	.983	.978	.934	.905	.868
	VIF	1.017	1.023	1.070	1.105	1.152
SIZE	Tolerance	.987	.981	.899	.856	.836
	VIF	1.013	1.020	1.112	1.168	1.197
Gearing	Tolerance	.966	.958	.894	.841	.711
	VIF	1.035	1.020	1.119	1.190	1.406
ADR ₁	Tolerance		.905	.892	.848	.812
	VIF		1.105	1.121	1.179	1.231
ADR ₂	Tolerance		.911	.889	.883	.815
	VIF		1.097	1.125	1.132	1.228
EOC	Tolerance			.732	.707	.679
	VIF			1.366	1.413	1.472
EMD	Tolerance			.368	.359	.351
	VIF			2.717	2.783	2.846
EOS	Tolerance			.949	.906	.849
	VIF			1.054	1.103	1.178
ECDB	Tolerance			.352	.345	.333
	VIF			2.844	2.898	3.005
EDAB	Tolerance			.932	.907	.899
	VIF			1.073	1.102	1.112
EDIS	Tolerance			.948	.945	.906
	VIF			1.055	1.058	1.104
INSIV	Tolerance				.789	.773
	VIF				1.268	1.294
TTSH	Tolerance				.759	.711
	VIF				1.318	1.407
FMB	Tolerance				.744	.674
	VIF				1.345	1.483
INDS ₁	Tolerance					.279
	VIF					3.580
INDS ₂	Tolerance					.345
	VIF					2.899
INDS ₃	Tolerance					.180
	VIF					5.547
INDS ₄	Tolerance					.354
	VIF					2.824
INDS ₅	Tolerance					.271
	VIF					3.690
INDS ₆	Tolerance					.245
	VIF					4.079
AUD	Tolerance					.869
	VIF					1.150
FRNX	Tolerance					.770
	VIF					1.299

Appendix 7C: Regression Results (*Standardised coefficients*)

	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
R²	12.9%	13.6%	20.3%	28.6%	33.4%
Adjusted R²	11.3%	11.2%	15.8%	23.4%	25.6%
R² Change	12.9%	0.7%	6.7%	8.3%	4.8%
F-Value	8.01	5.64	4.45	5.50	4.31
p-value	.000	.000	.000	.000	.000
Variables					
SIZE	-.013	-.006	.009	.049	.064
Profit	.247***	.246***	.278***	.230***	.232***
Gearing	-.033	-.026	-.067	-.034	-.101
CMPLX	.261***	.272***	.275***	.257***	.230***
ADR₁		-.087	-.086	-.028	-.067
ADR₂		-.044	-.028	-.020	-.023
EOC			.111	.072	.098
EMD			.129	.062	.061
EOS			-.118^a	-.087	-.063
ECDB			.060	.015	.053
EDAB			-.086	-.064	-.046
EDIS			.017	.018	.043
INSIV				.175**	.157*
TTSH				.152*	.127^a
FMB				-.165*	-.112
INDS₁					-.175
INDS₂					-.159
INDS₃					-.297*
INDS₄					-.170^a
INDS₅					-.200^a
INDS₆					-.136
AUD					.121^a
FRNX					.128^a

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

CHAPTER 8

THE ASSOCIATION BETWEEN ISLAMIC SOCIAL DISCLOSURE (ISCR) AND EARNINGS QUALITY (EQ)

8.1 Introduction

Chapters 5 and 7 have reported the empirical findings on the effect of additional regulatory factors, cultural factors, ownership-structure variables and market-related variables on earnings quality (EQ) and Islamic social disclosure (ISCR), respectively. The aim of this chapter is to present and discuss the relationship between ISCR and EQ for the same sample of 224 companies, thus providing answers to the following research question:

SRQ8: What is the relationship between Islamic social disclosure (ISCR) and earnings quality (EQ) in the annual reports of Malaysian public listed companies?

First, this chapter reviews the literature on the association between EQ and Disclosure. Since there are no previous studies on the relationship between EQ and Islamic social disclosure, the empirical arguments of previous studies in the areas of voluntary disclosure, corporate governance disclosure, or corporate social responsibility have been referred to in developing the hypothesis.

This is followed by a brief description of the variables and a report on the empirical findings. The chapter ends with conclusions.

8.2 Earnings Quality and Disclosure

In general, the management is able to exercise its professional judgment in terms of reporting financial information as well as disclosing certain non-financial information or the firm's social commitments in the annual reports. Normally, management's decisions to disclose information or report accounting figures are due to regulatory requirements or demand from investors; they could also be for the benefit of other stakeholders. However, due to the agency conflicts between managers as the agent and the owners or other stakeholders, decisions made are subject to further consideration.

As mentioned in Section 2.2.3, managements may be involved in aggressive earnings management activities in order to seize opportunities that bring benefits to them. They could avoid doing so if they wanted to maintain their good rapport with stakeholders and perform their duties professionally. Previously in Chapter 5, this study has found that strong regulations and the presence of a Malay chairperson are related to the level of earnings quality.

With regard to the disclosure level, previous studies have established that in some situations, managements would disclose certain information for the benefit of the firms or others. Additionally, as reported by Grossman and Hart (1980), the presence of law and disclosure costs could influence management decisions in providing full disclosure. Chapter 7 has discussed this issue at some length and revealed that factors which force the management of firms in Malaysia to disclose information are subject to the influence of ownership (institutional investors, top-ten shareholders), and market factors (type of industry, type of auditor, involvement in foreign activities).

The arguments above suggest that there are strong reasons to examine the relationship between EQ and ISCR. Do the managers of firms that disclose more non-financial information also report a high quality of earnings or vice versa? The relationship between EQ and disclosure has been seriously debated by previous

researchers, and the existing literature provides three different views: in the first case, firms with poor (good) EQ will issue more (less) expansive disclosures (substitutive views); secondly, firms with poor (good) EQ will issue less (more) expansive disclosure (complementary views); and thirdly, EQ and disclosure are unrelated (Chih et al., 2008; Francis et al. 2008; Kasznik, 1999; Lobo & Zhou, 2001).

Looking at the substitutive and complementary views, Francis et al. (2008) investigated the relationship between voluntary disclosure, earnings quality and cost of capital. As their study referred to the complementary (substitutive) relationship between EQ and disclosure, they hypothesized that disclosure levels are correlated to an increase (decrease) in the firm's earnings quality. An examination of 677 firms' annual reports and 10-K filings in the fiscal year 2001 found a positive relationship between voluntary disclosure and EQ. Their study, however, found that different mediums used to disseminate information had different relationships with EQ.

Supporting Francis et al.'s (2008) findings that firms with poor (good) EQ will issue less (more) expansive disclosures, Lobo and Zhou (2001) hypothesized that the relationship between EM and corporate disclosure is negatively related. They used ratings published by the Association of Investment Management and Research to measure the corporate disclosure; the modified Jones model served as proxy to the earnings management level. In their study, they performed a two-stage least squares analysis to estimate the two-equation systems where the dependent variable of the first equation is EM and the dependent variable of the second equation is disclosure. Their findings were able to support their predictions.

Kasznik (1999) also investigated the relationship between voluntary disclosure and earnings management. His study examined the earnings reported by firms that issue annual earnings forecasts. He argued that managers would be more likely to be involved in more earnings management activities to receive benefits once they had issued the management forecasts. His study was able to provide evidence to support the view that firms with poor (good) EQ will issue more (less) expansive disclosure.

Chih et al. (2008) suggested that there are four possible explanations for the relationships between earnings management (EM) and Corporate Social Reporting (CSR), namely negative; positive, due to the management concern for uninformed investors; positive, due to multiple objectives of the firms; and no relationship. They investigated whether CSR-related features have a significant effect on EM in 1,653 corporations in 46 countries. From the analyses, they found that firms committed to CSR were less likely to get involved in income smoothing activities and were more transparent in reporting any earnings losses or decreases. They also found that strong legal enforcement could reduce the level of earnings aggressiveness.

When referring to the theoretical framework of accounting based on an Islamic perspective, management teams are required to follow what has been stated in the *Qur'an* and *Hadith*. The *Qur'an* directs management teams to keep proper records of indebtedness and places prohibitions on waste, avarice, and unfair trading practices (Gambling & Karim, 1991). The concept of accountability before God in the consciousness of all agents operating in the market can help moderate their pursuit of self-interest, induce them to fulfil their social obligations, and thereby help establish a just equilibrium between the interests of the individual and society (Chapra, 2004, p.171). The focus is on the equal distribution of wealth and considers the needs of all users. It promotes the concepts of maximization for the community, employees' and debtors' wellbeing, as well as products and environmental quality (Hefner, 2006; Khan, 1991; Kula, 2008; Kuran, 2001; Lewison, 1999). Different stakeholders would have access to different types of information (Milgrom, 1981), depending on their specific requirements. Subsequently, the accuracy of the earnings reported and a substantiated disclosure of accounting information are essential. These measures help various stakeholders in making economic decisions. They also act as evidence for management to assure the public that they have considered issues related to the community, employees, debtors, products and the environment when managing the firm. The intuition here is that the management teams are responsible for disclosing as much information as possible to the stakeholders; at the same time they should not get involved in aggressive earnings management activities. Thus, the earnings reported should be of

8.3.1 Islamic social disclosure (ISCR)

The Islamic social disclosure (ISCR) index for each company was calculated as follows:

$$\text{ISCR}_j = \frac{\sum_{i=1}^{n_j} \mathbf{X}_{ij}}{\mathbf{n}_j}$$

where:

\mathbf{n}_j = number of items expected for j^{th} firm, $\mathbf{n}_j \leq 35$

$\mathbf{X}_{ij} = 1$ if i^{th} item disclosed, 0 if i^{th} item not disclosed, so that $0 \leq \text{ISCR}_j \leq 1$.

8.3.2 Earnings Quality (EQ)

Due to regulatory and institutional differences applied to the Malaysian companies, in this study, four accruals quality models (Jones, 1991; Modified Jones, 1995; Dechow & Dichev, 2002; McNichols, 2002) have been reviewed. As reported in Chapter 4, McNichols's (2002) has been identified as a model that could accurately measure the level of earnings reported by Malaysian companies. Its attributes made a significantly strong contribution to the model. Subsequently, in order to examine the relationship between EQ and ISCR, measuring of EQ is based on the McNichols (2002) model as follows:

$$\text{TCA}_{j,t} = \mathbf{b}_0 + \mathbf{b}_1 \text{CFO}_{t-1} + \mathbf{b}_2 \text{CFO}_t + \mathbf{b}_3 \text{CFO}_{t+1} + \mathbf{b}_4 \Delta \text{Rev}_t + \mathbf{b}_5 \text{PPE}_t + \varepsilon_t \quad (1)$$

Where;

$\text{TCA}_{j,t}$	=	Firm j 's Total Current Accruals in year t
$\text{CFO}_{j,t}$	=	Firm j 's Cash Flow from Operations in year t
$\text{CFO}_{j,t-1}$	=	Firm j 's Cash Flow from Operations in year $t-1$
$\text{CFO}_{j,t+1}$	=	Firm j 's Cash Flow from Operations in year $t+1$
$\Delta \text{Rev}_{j,t}$	=	Firm j 's changes in Revenue in year t
$\text{PPE}_{j,t}$	=	Value of Firm j 's Property, Plant & Equipment in year t
β_0	=	Intercept
$\beta_1 - \beta_5$	=	The coefficients of the independent variables
ε_t	=	Error term

Since a higher value of the standard deviation of the residuals (obtained from the above equation) represents a lower quality of earnings, the values are then multiplied by -1 in order to obtain the actual score for each company's EQ.

8.3.3 Model for Testing the Hypothesis

The exact relationship between ISCR and EQ is still unclear; that is, it is not known whether the management's disclosure decisions are affected by the EQ level, or whether the EQ level is affected by the disclosure level (Lobo & Zhou, 2001). Therefore, to determine the relationship, and following Kasznik (1999), Lobo and Zhou (2001), and Richardson (1998); this study also adopted the two-stage least squares (2SLS) method to estimate the following equation system:

$$\text{ISCR}_j = \beta_0 + \beta_1 \text{EQ}_j + \beta_2 \text{Profit}_j + \beta_3 \text{CMPLX}_j + \varepsilon_j \quad \text{Model 8a}$$

$$\text{EQ}_j = \alpha_0 + \alpha_1 \text{ISCR}_j + \alpha_2 \text{Gearing}_j + \varepsilon_j \quad \text{Model 8b}$$

Where

ISCR _j	=	Total Islamic Social Reporting score for firm <i>j</i>
EQ _j	=	The respective earnings quality metric for firm <i>j</i>
Profit	=	Net Income /Total Owners' Equity
Gearing	=	Total Debt/Total Assets
CMPLX	=	Business Complexity (Actual number of subsidiaries)
β ₀ / α ₀	=	Intercept
β ₁ - β ₃ / α ₁ - α ₂	=	The coefficients of the independent variables
ε _j	=	Error term

Model 8a states ISCR as a function of earnings quality (EQ) and two exogenous variables of corporate characteristics that have been tested and found to have a significant relationship with ISCR (refer to Table 7.25). Model 8b states EQ as a function of the Islamic social disclosure score (ISCR) and one exogenous variable, Gearing, that has been identified as the only variable of corporate characteristics that has a significant relationship with EQ (refer to Table 5.23).

In the first stage of the 2SLS regression analysis, this study regressed ISCR on EQ and all the exogenous variables in Model 8a and 8b. In the second stage, Model 8a was estimated using the fitted value of EQ from the first stage regression. The use of ordinary least squares in the second stage yielded consistent estimates of the parameters in Model 8a, because the fitted value of EQ from the first stage was uncorrelated with the error term in the second stage regression. The same procedures were performed for Model 8b. The procedures carried out were consistent with Kasznik (1999), Lobo and Zhou (2001), and Richardson (1998).

8.4 Sample Selection and Data Sources

This study examined the same group of companies as stated in Section 5.3 and Section 6.3.3. The total number of companies included in the analyses was 224 companies. The values of all variables were obtained from the 2007 annual reports except for EQ, where the data were extracted from annual reports for the period 1999 to 2008. Descriptive statistics for the data are the similar to those reported in Section 5.7.1.

8.5 Empirical Results

The analysis performed to examine the relationship between ISCR and EQ is divided into two stages. First, bivariate Pearson product-moment correlation coefficients and non-parametric Spearman *rho* were performed to test the direction of the variables. Second, the results obtained from multiple regression carried out on the models stated in Section 8.3.3 are demonstrated. Additionally, in order to further determine the relationship between ISCR, EQ and other factors; the empirical findings from hierarchical analyses performed on the ISCR, EQ and the same range of factors tested on EQ and ISCR in previous chapters are also presented.

8.5.1 Univariate Analysis

Table 8.2 below reports the relationship between ISCR and EQ. Pearson correlation analysis shows a negative relationship between the two, but Spearman *rho*'s correlation shows a positive association. However, the outputs confirm that there is no significant association between the two variables.

Table 8.2: Correlation Analysis between EQ and ISCR

Variable	Correlation	EQ
Islamic Social Disclosure (ISCR) (n = 224)	Pearson Correlation	-.032
	Sig (2 tailed)	.631
	Spearman's <i>rho</i> correlation	.060
	Sig (2 tailed)	.370

8.5.2 Two-Stage Least Squares (2SLS) Estimation and Ordinary Least Squares (OLS) Estimation: Results and Discussion

Panel A and Panel B of Table 8.3 present the results of the relationship between ISCR and EQ from the two-stage least squares (2SLS) estimation and ordinary least squares (OLS) estimation.

As reported in Panel A for Model 8a, the results show that all independent variables explained 27.4% of the variance in ISCR, which is highly significant as indicated by a p value at less than the .001 level. An examination of t-values indicates that all variables contributed to the prediction of ISCR, with EQ representing the highest value. Similar to findings reported in Chapter 7, the profitability ratios (Profit) and business complexity (CMPLX) were each significantly positively related to ISCR. β_1 (representing the EQ) from Model 8a, was significantly negative. This suggests that firms that have poor earnings quality would disclose more information. This finding is consistent with Kasznik's (1999) results, and supports the view that firms with poor (good) EQ will issue more (less) expansive disclosure. Additionally, the findings also tend to support the arguments made by Francis et al. (2008) that the existence of information asymmetry between managements and stakeholders would

force the management to fulfill the stakeholders' demand for specific information, even though the earnings reported are of low quality. It is believed that either the management would receive benefits once they issued the additional information, or they would simply adhere to certain rules or regulations imposed on them. The phenomenon of managers using their discretion to release or withhold information based on what is expected by stakeholders, as argued by Verrecchia (1983), is also pertinent in this situation. Subsequently, when the earnings reported are of low (high) quality, it is believed that the managements would disclose more (less) of their social commitment in order to gain stakeholders' confidence. If the firm's earnings were of high quality, the management would not make an effort to disclose more because they would already be confident about their performance. This state of affairs could be seen as one of many ways for management remaining competitive in the industry, as argued by Verrecchia (1990) and Milgrom (1981).

Nevertheless, it contradicts Lobo and Zhou's (2001) opinion that, when less information is disclosed, the existence of information asymmetry would be higher; this would allow management to get involved in more aggressive earnings management activities, therefore the quality of earnings reported is lower.

Next, when the test of EQ on fitted values of ISCR (obtained from the first stage regression) and Gearings (as in Model 8b) was carried out, the variables could only explain 1.1%. Although the relationship between the EQ and ISCR was in a negative direction, statistically the model was insignificant because the p value was greater than .05. This finding suggests that ISCR is unable to predict the level of EQ in an organization.

Panel B presents the OLS estimation results and, as can be seen, the findings are quite different from the 2SLS estimation. Although the direction of the variables was similar, Model 8a of Panel B revealed no significant relationship between ISCR and EQ.

Table 8.3: Relationship between ISCR and EQ

Panel A: Two-Stage Least Squares Estimation

Model 8a: $ISCR_j = \beta_0 + \beta_1 EQ_j + \beta_2 Profit_j + \beta_3 CMPLX_j + \varepsilon_j$

	β_0	β_1	β_2	β_3
Coefficient	-.361***	-6.730***	.127**	.001***
t-statistics	-3.704	-6.638	2.604	2.983

$R^2: 27.4\%$ $Adj. R^2: 26.4\%$ $p = .000***$

Model 8b: $EQ_j = \alpha_0 + \alpha_1 ISCR_j + \alpha_2 Gearing_j + \varepsilon_j$

	α_0	α_1	α_2
Coefficient	-0.016	-0.204	-0.031
t-statistics	-0.284	-1.235	-0.688

$R^2: 1.1\%$ $Adj. R^2: 0.2\%$ $p = .310$

Panel B: Ordinary Least Squares Estimation

Model 8a: $ISCR_j = \beta_0 + \beta_1 EQ_j + \beta_2 Profit_j + \beta_3 CMPLX_j + \varepsilon_j$

	β_0	β_1	β_2	β_3
Coefficient	.274***	-0.044	.201***	.002***
t-statistics	15.558	-0.604	3.864	4.106

$R^2: 12.9\%$ $Adj. R^2: 11.7\%$ $p = .000***$

Model 8b: $EQ_j = \alpha_0 + \alpha_1 ISCR_j + \alpha_2 Gearing_j + \varepsilon_j$

	α_0	α_1	α_2
Coefficient	-0.073	-0.040	-0.027
t-statistics	-2.516	-0.897	-0.457

$R^2: 0.5\%$ $Adj. R^2: -0.4\%$ $p = .596$

Legends:

- ISCR_j = Total Islamic Social Reporting score for firm *j*
- EQ_j = The respective earnings quality metric for firm *j*
- Size = Log of the firm's total assets
- Profit = Net Income /Total Owners' Equity
- Gearing = Total Debt/Total Assets
- CMPLX = Business Complexity (Actual number of subsidiaries)

Therefore, based on the 2SLS results, this study reject the null hypothesis. The relationship between ISCR and EQ was found to be in a substitutive relation; in other words, firms with poor EQ issued more expansive disclosure. The decision to disclose information depends on the quality of earnings reported.

8.5.3 Hierarchical Multiple Regressions: Results and Discussion

Findings from the analyses of the previous section demonstrated that the relationship between ISCR and EQ were negatively correlated and that the EQ level is one of the predictors of ISCR. Accordingly, this section discusses the additional analyses performed to examine the relationship of the two with complete variables previously tested in Chapters 5 and 7. Models are constructed to examine the association between the dependent variable of ISCR and the independent variables of Earnings Quality (EQ) (using the fitted value of EQ from the first stage regression); additional regulation (ADR), cultural factors (CULT), ownership-structure variables (OSV), market-related variables (MRV), and corporate characteristics are used as control variables. As in Sections 5.8 and 7.7.3; in order to avoid perfect collinearity, the SCC was used as a benchmark to compare with the other categories (SNC and DLL) for ADR variables; and the ‘Other’ sector was used as a control group for the industry variable. The regression equation is as follows:

$$\begin{aligned} \text{ISCR}_j = & \beta_0 + \beta_1\text{EQ}_j + \beta_2\text{ADR}_{1j} + \beta_3\text{ADR}_{2j} + \beta_4\text{EOC}_j + \beta_5\text{EMD}_j + \beta_6\text{EOS}_j + \\ & \beta_7\text{ECDB}_j + \beta_8\text{EDAB}_j + \beta_9\text{EDIS}_j + \beta_{10}\text{INSIV}_j + \beta_{11}\text{TTSH}_j + \beta_{12}\text{FMB}_j + \\ & \beta_{13}\text{INDS}_{1j} + \beta_{14}\text{INDS}_{2j} + \beta_{15}\text{INDS}_{3j} + \beta_{16}\text{INDS}_{4j} + \beta_{17}\text{INDS}_{5j} + \\ & \beta_{18}\text{INDS}_{6j} + \beta_{19}\text{AUD}_j + \beta_{20}\text{FRNX}_j + \beta_{21}\text{Size}_j + \beta_{22}\text{Gearing}_j + \beta_{23}\text{Profit}_j \\ & + \beta_{24}\text{CMPLX}_j + \varepsilon_j \end{aligned}$$

Where:

ISCR _{<i>j</i>}	=	Total Islamic Social Disclosure score for firm <i>j</i>
EQ _{<i>j</i>}	=	The respective earnings quality metric for firm <i>j</i>
ADR ₁	=	1 if the company is categorised as SNC; 0 otherwise
ADR ₂	=	1 if the company is categorised as DLL; 0 otherwise
EOC	=	1 if the company has Malay chairperson; 0 otherwise
EMD	=	1 if the company has Malay managing director; 0 otherwise
EOS	=	1 if the proportion of Malay shareholdings exceed those of other ethnic groups; 0 otherwise

ECDB	=	1 if the proportion of Malay Directors on the Board exceed those of other ethnic groups; 0 otherwise
EDAB	=	1 if there is at least one member of the Board of Directors with a qualification in Accounting or Business; 0 otherwise
EDIS	=	1 if there is at least one member of the Board of Directors with a qualification in Islamic Studies; 0 otherwise
INSIV	=	Total shares owned by institutional shareholders disclosed in the “30 largest shareholders” information in the annual reports /Total number of shares issued.
TTSH	=	Total shares owned by top ten shareholders disclosed in the “30 largest shareholders” information in the annual reports / Total number of shares issued.
FMB	=	Total family members on the board / Total number of Directors on the Board.
INDS ₁	=	1 if the company is in the Consumer Products sector; 0 otherwise
INDS ₂	=	1 if the company is in the Construction sector; 0 otherwise
INDS ₃	=	1 if the company is in the Industrial Products sector; 0 otherwise
INDS ₄	=	1 if the company is in the Plantations sector; 0 otherwise
INDS ₅	=	1 if the company is in the Properties sector; 0 otherwise
INDS ₆	=	1 if the company is in the Trading and Services sector; 0 otherwise
AUD	=	1 if the company has a Big-4 auditor; 0 otherwise
FRNX	=	1 if the company has been involved in any foreign activities; 0 otherwise
Size	=	Log of the firm’s total assets [correlation tests between total assets and revenue show the scores are highly correlated (.858**)]
Profit	=	Net Income /Total Owners’ Equity
Gearing	=	Total Debt/Total Assets
CMPLX	=	Business Complexity (Actual number of subsidiaries)
β_0	=	Intercept
$\beta_1 - \beta_{24}$	=	The coefficients of the independent variables
ε_j	=	Error term

Note:

ADR₁ and ADR₂ = dummy variables for additional regulatory factor

INDS₁ to INDS₆ = dummy variable for industry specific factor

Consequently, based on the main model above, six separate cross-sectional regression models are examined to test the hypotheses. The six models are as follows:

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \varepsilon_j \quad \text{(Model 8c)}$$

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 EQ_j + \varepsilon_j \quad \text{(Model 8d)}$$

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 EQ_j + \beta_6 ADR_{1j} + \beta_7 ADR_{2j} + \varepsilon_j \quad \text{(Model 8e)}$$

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 EQ_j + \beta_6 ADR_{1j} + \beta_7 ADR_{2j} + \beta_8 EOC_j + \beta_9 EMD_j + \beta_{10} EOS_j + \beta_{11} ECDB_j + \beta_{12} EDAB_j + \beta_{13} EDIS_j + \varepsilon_j \quad \text{(Model 8f)}$$

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 EQ_j + \beta_6 ADR_{1j} + \beta_7 ADR_{2j} + \beta_8 EOC_j + \beta_9 EMD_j + \beta_{10} EOS_j + \beta_{11} ECDB_j + \beta_{12} EDAB_j + \beta_{13} EDIS_j + \beta_{14} INSIV_j + \beta_{15} TTSH_j + \beta_{16} FMB_j + \varepsilon_j \quad \text{(Model 8g)}$$

$$ISCR_j = \beta_0 + \beta_1 Size_j + \beta_2 Gearing_j + \beta_3 Profit_j + \beta_4 CMPLX_j + \beta_5 EQ_j + \beta_6 ADR_{1j} + \beta_7 ADR_{2j} + \beta_8 EOC_j + \beta_9 EMD_j + \beta_{10} EOS_j + \beta_{11} ECDB_j + \beta_{12} EDAB_j + \beta_{13} EDIS_j + \beta_{14} INSIV_j + \beta_{15} TTSH_j + \beta_{16} FMB_j + \beta_{17} INDS_{1j} + \beta_{18} INDS_{2j} + \beta_{19} INDS_{3j} + \beta_{20} INDS_{4j} + \beta_{21} INDS_{5j} + \beta_{22} INDS_{6j} + \beta_{23} AUD_j + \beta_{24} FRNX_j + \varepsilon_j \quad \text{(Model 8h)}$$

Results from the hierarchical regression analyses are presented in Table 8.4 below.

Table 8.4: Hierarchical Regression Results (*Unstandardised coefficients*) of Determinants of Islamic Social Reporting (ISCR)

	Model 8c	Model 8d	Model 8e	Model 8f	Model 8g	Model 8h
R²	12.9%	14.4%	16.8%	23.5%	28.6%	44.2%
Adjusted R²	11.3%	12.4%	14.4%	18.7%	23.1%	37.4%
R² Change	12.9%	1.5%	2.5%	6.7%	5.1%	15.6%
F-Value	8.01	7.24	6.18	4.92	5.15	6.5
p-value	.000	.000	.000	.000	.000	.000
Constant	.300*** (4.623)	.247*** (3.520)	.212** (2.976)	.278** (2.956)	.064 (.575)	.899*** (5.262)
Variables						
CORPORATE CHARACTERISTICS (CV)						
SIZE	-.002 (-.205)	.001 (.066)	.004 (.500)	-.003 (.373)	.007 (.781)	-.025** (-2.675)
Profit	.204*** (3.867)	.210*** (4.009)	.207*** (3.984)	.233*** (4.506)	.185*** (3.546)	.920*** (7.246)
Gearing	-.025 (-.516)	-.044 (-.893)	-.054 (-1.087)	-.091 (-1.801)	-.015 (-.267)	-1.462*** (-6.379)
CMPLEX	.002*** (4.087)	.002*** (4.233)	.002*** (4.689)	.002*** (4.737)	.002*** (3.941)	.002*** (5.626)
EQ		-.445^a (-1.938)	-.814** (-2.874)	-.986** (-2.940)	.179 (.360)	-19.917*** (-6.181)
ADDITIONAL REGULATORY FACTOR						
ADR ₁			-.047^a (-1.736)	-.049^a (-1.868)	-.007 (-.233)	-.524*** (-6.249)
ADR ₂			-.095* (-2.258)	-.107* (-2.338)	.007 (.126)	-2.098*** (-6.191)
CULTURAL FACTOR						
EOC				-.010 (-.313)	.035 (1.013)	-.937*** (-5.885)
EMD				.086^a (1.861)	.020 (.406)	.862*** (6.114)
EOS				-.368* (-2.136)	-.231 (-1.336)	-1.570*** (-5.683)
ECDB				.028 (.652)	.004 (.100)	.496*** (5.767)
EDAB				-.081 (-1.125)	-.074 (-1.042)	.070 (1.046)
EDIS				.043 (.500)	.020 (.237)	.620*** (5.196)
OWNERSHIP-STRUCTURE VARIABLES						
INSIV					.167** (2.650)	-.332*** (-3.438)
TTSH					.206^a (1.941)	-2.039*** (-5.629)
FMB					-.146* (-2.189)	1.443*** (5.700)

	Model 8c	Model 8d	Model 8e	Model 8f	Model 8g	Model 8h
MARKET-RELATED VARIABLES						
INDS ₁						-1.282*** (-6.421)
INDS ₂						-.001 (-.009)
INDS ₃						-.548*** (-6.416)
INDS ₄						-.642*** (-6.141)
INDS ₅						.163* (2.339)
INDS ₆						-.592*** (-5.933)
AUD						.350*** (6.494)
FRNX						.347*** (6.478)

Legends:

*sig: significant at 5%

**sig: significant at 1%

***sig: significant at 0.1%

^a: Significant at 10%

Table 8.4 above displays the unstandardised regression coefficients (*B*), intercepts, R^2 , adjusted R^2 , R^2 Change, and p-value for the six models. Adjusted R^2 values for Model 8c to Model 8h reveal a constant increase from 11.3% to 37.4%. The p-values of all six models indicate that the models as a whole are statistically significant. Additionally, the results also show that the changes in R^2 values are significantly more than zero. Consistent with findings demonstrated in Tables 7.26 and 8.3; throughout the analyses, control variables that remained statistically significant on the ISCR are profitability ratios and business complexity. With regard to relationship of EQ and Cultural factors on ISCR, the variables are found to be statistically significant with ISCR, but ceased to be significant when ownership-structure variables were included in the model. All ownership-structure variables are found to have a significant effect on ISCR.

Consistent with Section 7.7.3, several tests have also been conducted to ensure that the analyses were free from the problem of multicollinearity and outliers. Correlation coefficients among the independent and control variables for Model 8c to Model 8g; show the relationship among the independent variables did not exceed .7; the value of Tolerance is more than .10 and the VIF values are below the cut-off

of 10 (Pallant, 2007); and the maximum value for Cook's Distance is .064 (less than 1). However, contrary to the other models, Model 8h evidences serious multicollinearity problems where Tolerance and VIF values of 12 variables scored less than .10 and more than 10 respectively (see Table 8.5 below). When two or more independent variables are highly correlated, there are serious difficulties in the interpretation and verification of any single variable (Field, 2009; Hair et. al., 2006). Problems of unstable coefficients and large standard errors lead to uninterpretable simple effects and therefore inability to generate theoretical implications (Echambadi et. al., 2006). As a result, model 8h has been dropped from the discussion because it is unable to give valid results about any individual predictor (Field, 2009; Pallant, 2007; Tabachnick & Fidell, 2007).

As demonstrated before, ISCR and EQ level were negatively correlated; the companies that performed during the period of analysis and have more subsidiaries companies will disclose more ISCR information. However, the SNC and DLL group of companies tend to have negative relationship with ISCR. The possible explanation for SNCs is that since they are the *Shariah* Non-compliant companies; therefore are not subject to fulfil the demand of investors who need certain information for the economic-religious decisions. The information related to ISCR is irrelevant for them to disclose. The DLL companies are expected to have a conflict with the EQ and ISCR; they might have to disclose more ISCR information in order to gain investors confident; to cover the lower level of EQ, and to be granted the SCCs status so that they could receive the benefit offered to the SCCs. Results revealed also suggest that the existence of Malay managing director could increase the ISCR level; however, the relationship between ethnicity of shareholdings and ISCR level is in the negative direction. Nevertheless, these circumstances are expected to be true before the participation of the institutional investors, top-ten shareholders and family members on board. The results clearly demonstrated that the ownership-structure variables have significant authority to influence the management's decision on ISCR and EQ.

Table 8.5: Tolerance and Variance Inflation Factor (VIF) Values

Variables	Collinearity Statistics	Model 8c	Model 8d	Model 8e	Model 8f	Model 8g	Model 8h
Size	Tolerance	.987	.968	.938	.893	.855	.556
	VIF	1.013	1.033	1.066	1.120	1.169	1.797
Profit	Tolerance	.983	.979	.977	.934	.864	.119
	VIF	1.017	1.022	1.024	1.071	1.158	8.391
Gearing	Tolerance	.966	.929	.902	.828	.614	.031
	VIF	1.035	1.077	1.109	1.208	1.628	32.414
CMPLX	Tolerance	.985	.981	.942	.922	.835	.660
	VIF	1.015	1.020	1.062	1.084	1.197	1.516
EQ	Tolerance		.936	.602	.406	.174	.003
	VIF		1.068	1.660	2.462	5.746	295.158
ADR ₁	Tolerance			.885	.861	.688	.066
	VIF			1.130	1.162	1.454	15.117
ADR ₂	Tolerance			.588	.470	.270	.007
	VIF			1.701	2.127	3.699	150.565
EOC	Tolerance				.510	.400	.015
	VIF				1.961	2.499	65.573
EMD	Tolerance				.353	.291	.030
	VIF				2.834	3.440	33.857
EOS	Tolerance				.942	.889	.282
	VIF				1.062	1.124	3.540
ECDB	Tolerance				.351	.338	.069
	VIF				2.846	2.961	14.504
EDAB	Tolerance				.926	.905	.821
	VIF				1.080	1.104	1.218
EDIS	Tolerance				.942	.927	.383
	VIF				1.061	1.078	2.608
INSIV	Tolerance					.781	.272
	VIF					1.281	3.672
TTSH	Tolerance					.437	.031
	VIF					2.290	32.684
FMB	Tolerance					.500	.028
	VIF					1.999	35.537
INDS ₁	Tolerance						.020
	VIF						49.607
INDS ₂	Tolerance						.319
	VIF						3.130
INDS ₃	Tolerance						.060
	VIF						16.606
INDS ₄	Tolerance						.119
	VIF						8.421
INDS ₅	Tolerance						.165
	VIF						6.060
INDS ₆	Tolerance						.067
	VIF						14.951
AUD	Tolerance						.158
	VIF						6.320
FRNX	Tolerance						.150
	VIF						6.653

8.6 Conclusion

This study set out with the expectation that with the existence of Islamic Capital Market and the additional layer of regulation, namely *Shariah* Law, imposed on the SCCs, together with the significant increase in numbers of companies granted SCC status, the quality of earnings reported and disclosure of information in an Islamic context (ISCR) of Malaysian companies should be of a high standard. The information should be easily accessible, accurately presented, transparent, true and reasonably disclosed (Abu-Tapanjeh, 2009). Firms must disclose bad or good news not just to act as a strategy to retain investor confidence (Ross, 1979), but also to avoid misinterpretation by the users of the information. The comprehensiveness, relevance, and high quality of financial and non-financial information could assist present and potential investors to make sound economic and religious decisions (Haniffa & Hudaib, 2004), improve the level of their judgements, assess whether firms' activities are operated in accordance with Islamic principles and also assist investors to perform their duties as vice-regents of God (*Allah*).

As stated previously in Section 2.4.1, and consistent with *Shariah* principles, the Islamic theory of accounting developed by Baydoun and Willet (2000), and the Islamic Perspective of Accounting framework developed by Haniffa & Hudaib (2002), business entities, specifically the management teams of companies, are socially responsible and accountable towards God (*Allah*), the community, the environment, and themselves. These views are also consistent with Stakeholders' Theory, where managers are required to give enough attention to the needs of the entire spectrum of annual report users (Jensen, 2001) so that the concept of justice, fairness, and honesty could be accomplished.

Accordingly, this chapter has examined the relationship between ISCR and EQ for 224 companies listed on the Bursa Malaysia main board in 2007. The EQ level of each firm was the standard deviation of residuals obtained from the regression analysis performed according to the McNichols Model (as described in Chapter 4) then multiplied by -1; ISCR scores were obtained from the ISCR index for each

company as calculated in Chapter 6.

The findings revealed that the relationship between ISCR and EQ was negatively correlated: firms with low EQ level tended to disclose more information related to their social contribution. This study also revealed that EQ level is one of the predictors of ISCR, and not the other way round.

The findings could be interpreted to suggest that managements are acting with the intention of misleading the stakeholders by providing information related to their social contribution while, at the same time, they may involved with aggressive earnings management activities. The information disclosed on the managements' social commitment may be merely a means of masking the lower quality of earnings. If the earnings reported are of high quality, the managements are less keen to disclose more information, as they would be sufficiently confident of maintaining their competitiveness without increased disclosure. In view of that, the concept of accountability before God was unable to ensure that the management performed its duties in line with the interests of the individual and society.

One of the limitations of this study is that the ISCR level was based on results revealed from the analyses performed on the annual reports. The findings may have been different if the level of ISCR had been examined on the basis of a more inclusive sample of communication sources, such as press releases or interim reports.

The next chapter, Chapter 9, discusses the practical implications of the findings set out in Chapters 4, 5, 7, and 8. Additionally, the limitations of the study and suggestions for further research will also be discussed.

CHAPTER 9

SUMMARY, PRACTICAL IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

9.1 Introduction

This chapter summarises the main empirical findings set out in Chapters 4, 5, 6, 7, and 8. **Section 9.2** outlines the research objectives and methods used; **Section 9.3** discusses the main findings of the study; **Section 9.4** highlights the practical and theoretical implications of the findings; **Section 9.5** discusses the limitations of the study, and makes suggestions for future research; and, finally, **Section 9.6** concludes the chapter.

9.2 Summary of Research Objectives, and Methods

The growing demand for investments in Malaysian companies that comply with *Shariah* principles and the additional regulations imposed on these *Shariah*-compliant companies motivated this study to adduce empirical evidence from two different segments that are important for stakeholders to examine, namely earnings quality (EQ) and social disclosure in the Islamic context (ISCR). The main objective was to examine the relationship between these two items. All variables used in the study were extracted from annual reports of companies listed on the main board of Bursa Malaysia. Since the research setting of this study is unique in that it includes companies listed as *Shariah*-compliant companies at the Securities Commission, Malaysia, about which little is currently known, the findings are expected to further improve the delivery of accounting information in the future; they could also provide new empirical evidence concerning the relationship between Islamic social disclosure and earnings quality.

The regulation system, and specifically *Shariah* rules applied to the SCCs, is also an important and distinctive area to be examined. Subsequently, the inclusion of

Islamic Perspectives of Accounting framework and several theories such as Agency Theory, Environmental Determinism Theory, Stakeholder Theory, Institutional Theory, Legitimacy Theory and Signalling Theory, in testing the hypotheses could further provide a comprehensive view of the EQ, disclosure, and management of Malaysian companies.

The relationship between EQ and ISCR has been investigated in Chapter 8 by employing univariate analysis, two stage least square (2SLS), standard and hierarchical multiple regressions. However, before the main objective was realized, and in order to provide reasonable justification, several specific research objectives were identified and appropriate research methods were carried out as described in the following paragraphs.

First, since previous studies did not identify which accruals quality model was the most suitable approach to assess the quality of earnings reported by Malaysian companies, the first specific research objective was to identify which of the existing models could provide the best measurement of earnings and could therefore accurately predict firm's financial situation. Chapter 4 reviewed the use of different accruals quality approaches (models) in assessing earnings quality. The four accruals quality models included in the analyses were the Jones (1991) Model, the Modified Jones (1995) Model, the Dechow and Dichev (2002) Model and the McNichols (2002) Model. The research question was answered by analysing the annual reports of 258 companies during the period of 1999 to 2007 using a comparative analysis based on estimated results from a large number of multiple regression analyses covering year-specific regressions, status-specific regressions, industry-specific regressions, and pooled data, as well as the Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) of out-of-sample observations.

Second, once the suitable accruals quality model had been identified, the next specific research objectives were to explore the level of EQ of Malaysian public listed companies, to investigate the extent to which regulatory factors could

influence the level of EQ, and to identify factors that could mitigate management's involvement in destructive earnings management activities so that the earnings reported would be of high quality. These questions were answered by running both univariate and multivariate analyses (specifically hierarchical multiple regressions), as well as parametric and non-parametric analyses on 224 companies. The independent variables were extracted from the companies' annual reports for the year 2007. Since the dependent variable was based on the accrual quality measure which requires lagged and future data; therefore, the extraction of data for this variable covered the financial period from 1999 to 2008. Contrary to the accruals quality studies, the number of companies in this study was reduced by 34 due to the unavailability of 2008 annual reports (further explanation can be found in Section 5.3). To measure the influence of the regulatory factor, Pearson's and Spearman *rho* correlations, simple regression and Kruskal-Wallis tests were carried out. To test the cultural factors, type of auditors, and involvement in foreign activities, Pearson's and Spearman *rho* correlation, T-test comparison of means and Mann-Whitney U-tests were performed. In addition, Pearson's and Spearman *rho* correlations, ANOVA, and the Kruskal-Wallis test were carried out to test the relationship between EQ and type of industry. For the ownership structure variable, Pearson's and Spearman *rho* correlation and simple regression were performed.

Third, although there have been many studies conducted in the area of disclosures in the Islamic context, especially in financial institutions dealing with Islamic finance or Islamic banking, the population studied in this research is unique. It included companies listed as *Shariah*-compliant companies at the Securities Commission, Malaysia, and excluded companies that are classified as banking and financial institutions. To date, little is known about *Shariah*-compliant companies in general. Therefore, this study proposed an alternative Islamic social disclosure (ISCR) checklist specifically for SCC investors. The first stage was to identify themes that should be included in the Islamic social disclosure checklist. Themes included were based on previous studies, ICM selection guidelines, *Qur'an* and *Hadith* and current research settings. Once the disclosure checklist was ready, the level of Islamic social disclosure was then examined for each company. The objective to evaluate the depth

of ISCR level in the annual reports of Malaysian companies was satisfied by running descriptive analysis, and Pearson's and Spearman *rho* Correlation analyses.

The fourth specific research objective was to assess the applicability of a number of theories (the Islamic Perspective of Accounting, Environmental Determinism theory, Agency Theory, Institutional Theory, and Signalling Theory) in explaining the ISCR. This question was investigated through univariate and hierarchical multiple regression analyses, and parametric and non-parametric analyses. The analyses performed were the same analyses as those used to investigate the EQ variable (Pearson's and Spearman *rho* correlation, simple regression, Kruskal-Wallis test, T-test comparison of means, Mann-Whitney U, and ANOVA). The number of companies included was also the same as in the EQ analysis; that is, 224 companies, and all the variables were extracted from the 2007 annual reports.

9.3 Discussion of the Main Empirical Findings

This study dealt with a number of different but related research issues. In order to provide clear empirical findings, the discussions on each of the main conclusions are presented separately.

9.3.1 Accruals Quality Model

At the first stage, preliminary analyses were carried out on each of the independent variables. Analysis was performed on the accounting figures extracted from annual reports of Malaysian companies listed on the main board during the period 1999 to 2007. Models were tested on three different perspectives: status, type of industry, and yearly basis in order to provide results that are more robust, to be consistent with previous studies (Barth, Cram & Nelson, 2001; Dechow & Dichev, 2002), and to ensure the consistency of discussions throughout this thesis, where status of company and type of industry are included in testing several hypotheses in Chapters 5 and 7. When models were evaluated based on year-specific regressions, results from the analyses revealed that in the DD and McNichols models, CFO_t was the

variable that made the strongest significant contribution in all years except year 2000, and $\Delta\text{Rev} - \Delta\text{Rec}$ was found to be the weakest variable in almost all observations. Models were further analysed based on status-specific regressions. Once again results revealed that in the DD and McNichols model, CFO_t was the strongest variable, and PPE made a significant contribution in the Jones and MJM models. Surprisingly, $\Delta\text{Rev} - \Delta\text{Rec}$ made a significant contribution when the analysis was carried out on SNC. CFO_{t+1} was significant only for SNC and SCC. Data were then analysed on industry-specific regressions. From the analyses, the results demonstrated that different variables made significant contributions to different models in different sectors, however the CFOs were always found to have significant contribution to the models than just the ΔRev and PPE, and $\Delta\text{Rev} - \Delta\text{Rec}$ made no significant contribution to any of the analyses. The findings suggest that the McNichols model is the model that could accurately evaluate the quality of earnings reported due to the significant contribution made by the CFOs and the PPE.

The analysis was then continued to compare the four models based on the estimated results. Under multiple regression analyses, models were evaluated based on R^2 values, Adjusted R^2 values, Durbin-Watson (DW) values, and significance values in ANOVA tables. Models were then ranked according to an F-test based on residuals, R^2 and significant values from ANOVA tables. Analyses were performed based on year-specific regressions, status-specific regressions, and industry-specific regressions. The results generated from all the multiple regressions revealed that the McNichols Model (modified Jones (1991) and DD (2002) models) was the most suitable method to assess the quality of earnings reported.

Subsequently, the models were further analysed based on Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE). The McNichols Model (2002) also yielded the smallest MAE and MSE when data from out-of-sample observations were analysed. Therefore, it was concluded that the McNichols Model was the most suitable accruals quality model to apply when evaluating the quality of earnings reported by a Malaysian company.

9.3.2 Earnings Quality (EQ) Determinants of Malaysian Plc.

Previous studies on EQ have identified several factors (regulatory factors, cultural factors, ownership structure, and market-related factors) as having a significant impact on the level of quality of the earnings reported. Specifically, this study assessed whether, when corporate characteristics were controlled for, the four types of independent variables (regulatory factors, cultural factors, ownership structure, and market-related factors) were associated with level of EQ. Thirteen (13) hypotheses were developed in this study.

Results obtained from univariate analyses found that auditor size, type of industry and gearings had significant associations with EQ, but the relationships were quite weak. However, from the multivariate analyses, the findings tended to reject only the following null hypotheses:

H₁: *Ceteris paribus*, there is no association between additional regulation (ADR) and the level of EQ.

H₂: *Ceteris paribus*, there is no association between the presence of a Malay chairperson and the level of EQ.

In addition to the above findings based on the EQ analysis, the preliminary findings established that there were variations in the level of EQ from 2000 to 2007; furthermore, the EQ level was found to be lower in the year 2007 than the EQ level of previous years. The results also revealed that a larger contribution of the variation in EQ for 2007 originated from the DLL companies. The findings suggest that companies in Malaysia, specifically companies grouped under DLL, tended to manage their reported earnings in 2007 in order to be eligible to receive any incentives offered. This result was supported by the multivariate analysis when the results revealed that ADR₂ (when DLL was categorised as 1) and EQ were found to be negatively correlated.

Based on multiple regressions and univariate analyses, only Environmental Determinism Theory and Institutional Theory can be considered to be applicable in the case of EQ and Malaysian data.

The findings in relation to the negative effect between ADR_2 and EQ suggest that managements of Malaysian companies behave in the same way as managements of companies in other countries. Their main objective is profit maximisation and taking advantage of whatever opportunities and incentives are available, irrespective of their religious or cultural background. It appears that the additional regulatory factor and religious awareness were not sufficient to restrain the opportunistic behaviour of the management, nor did the presence of a Malay chairperson reduce the unethical behaviour of the management.

9.3.3 Islamic Social Disclosure Score of Malaysian Plc.

Disclosure in this study was restricted to social disclosure in the Islamic context and the type of disclosure provided in the annual reports. The disclosure checklist was developed after an extensive review of previous studies (Adnan & Abu Bakar, 2009; Baydoun & Willet, 2000; Grais & Pellegrini, 2006; Haniffa & Hudaib, 2007; Haniffa & Hudaib, 2002; Haniffa, Hudaib & Mirza, 2004; Kamla, 2007; Maali et al., 2003; Maali et al., 2006; Othman & Md Thani, 2010; Othman et al., 2009). Eight themes were identified and included in the disclosure checklist used in this study. The themes are: underlying philosophy and values (UPV); *Shariah* Supervisory Board (SSB); products or services (PS); *Zakat* (ZKT); employees (EYS); environment (NVRM); community (CTY); and Islamic terminology and values (ITV). A scoring sheet of 64 items was prepared and completed for 224 companies, of which 126 companies were identified as SCCs (*Shariah*-compliant), 65 companies were in the SNC (*Shariah* non-compliant) category, and 33 companies were categorised under DLL (Delisted and Listed).

When Islamic social disclosure was explored, some preliminary evidence on the absence of certain ISCR themes emerged. On average, the Product and Services theme scored the highest for disclosure (63%), followed by the Environment theme (55%), Community theme (39%), and Employees theme (27%). Not many disclosed items related to UPV (6.7%) or *Zakat* (3%), and almost none were related to SSB (0.5%) and ITV (0.9%) themes. The findings also revealed that the items related to UPV, *Zakat*, SSB, and ITV themes were disclosed at the very minimum level.

In addition to the above results, reports as presented in Table 6.5 (Panel A and B) generated from the correlation analysis between ISCR and the 8 themes demonstrated that the direction of all the 8 themes was positive with ISCR. However, only 6 themes were found to be highly significantly correlated with ISCR, namely Underlying Philosophy and Values (UPV), Products and/or Services (PS), *Zakat* (ZKT), Employees (EYS), Environment (NVRM), and Community (CTY). The findings also suggest that ISCR had a strong relationship with PS, NVRM, EYS, and CTY; a medium relationship with UPV; a weak correlation with ZKT; and an insignificant relationship with SSB and ITV.

When referring to the univariate analysis, the results indicated that there was no significant difference between the three groups in terms of disclosure.

These findings are in agreement with an observation made by Bao and Bao (2004). They suggested that the focus of accountants in developing countries such as Malaysia is more towards uniformity and statutory control, or detailed legal requirements. This practice contrasts to practices of accountants in Anglo countries (U.K, U.S and Canada) and Nordic countries (such as Finland, Netherlands, and Sweden), where the focus is on consistency, comparability, as well as flexibility.

9.3.4 Islamic Social Disclosure (ISCR) Determinants of Malaysian Plc.

Previous studies have examined the relationship of regulatory factors, cultural factors, ownership structure factors, and market-related factors on disclosure (both mandatory and voluntary). This study specifically investigated the above-mentioned factors together with Islamic social disclosure (ISCR). Similar to the EQ analyses, thirteen (13) hypotheses were developed and examined.

In terms of regulatory and cultural factors, the findings from multivariate analyses revealed that no significant relationship was present. With regard to ownership structure variables, two variables (institutional investors and top-ten shareholders) were found to be significant in both the univariate and the multivariate analyses. The positive relationships are consistent with Agency Theory which suggests that the significant levels of control from the institutional investors and top-ten shareholders are able to continuously monitor the activities of management and influence them to disclose relevant and useful information to the shareholders (Mercer, 2004; Prado-Lorenzo et al., 2009 and Shleifer & Vishny, 1997).

Results from this study also indicated that the market-related variables examined had a significant relationship with ISCR. The positive relationship between ISCR and size of auditor and involvement in foreign activities illustrates that, when a firm employed a large audit firm and/or was involved in foreign activities, the firm would disclose sufficient information to the stakeholders. It can be concluded that the presence of a Big-4 auditor and foreign associates limited the opportunistic behaviour of the management. With regard to the type of industry, it was found that Industrial Products, Plantations, and Properties tended to disclose less information compared to other sectors. One possible explanation for this is that these three sectors are businesses that are easily affected by economic conditions (as argued by Camfferman and Cooke, 2002) and the main concern of management is the survival of the business.

Therefore, the only null hypotheses **rejected** are as follows:

H₈: *Ceteris paribus*, there is no association between a high proportion of shares held by institutional investors and the level of ISCR.

H₉: *Ceteris paribus*, there is no association between a high proportion of shares held by top-ten shareholders and the level of ISCR.

H₁₁: *Ceteris paribus*, there is no association between industry type and the level of ISCR.

H₁₂: *Ceteris paribus*, there is no association between size of auditing firm and the level of ISCR.

H₁₃: *Ceteris paribus*, there is no association between company involvement in foreign activities and the level of ISCR.

The data were further analysed based on the hierarchical regression analyses to determine whether certain factors would have a different impact on the ISCR sub-categories. With the exception of cultural factors, which had a significant impact on the Products or Services, *Zakat*, and Islamic Terminology and Value (ITV) themes, all results remained the same.

9.3.5 The Association between Earnings Quality and Islamic Social Disclosure Scores

The final empirical findings concerned the relationship between EQ and ISCR. Previous empirical studies on the relationship between EQ and disclosure offer three different views: in the first case, firms with poor (good) EQ will issue more (less) expansive disclosures (substitutive views); secondly, firms with poor (good) EQ will issue less (more) expansive disclosure (complementary views); and thirdly, EQ and disclosure are unrelated (Chih et al., 2008; Francis et al., 2008; Lobo and Zhou,

2001; Kasznik, 1999; Verrecchia, 1990). Accordingly, the following null hypothesis was developed:

H₁: *Ceteris paribus*, there is no association between Islamic social disclosure and the level of EQ.

Besides standard multiple regression, the two-stage least squares (2SLS) method was carried out to examine the relationship between ISCR and EQ, and specifically to find out whether the management's disclosure decisions are affected by the EQ level, or whether the EQ level is affected by the disclosure level (Lobo & Zhou, 2001).

The preliminary results from the analyses provided evidence that firms that have poor earnings quality would disclose more social information. This finding is consistent with Kasznik's (1999) results, and supports the views of Chih et al. (2008), and Francis et al. (2008). Findings from this study suggest that managers would play an intelligent, active role to ensure that the information imparted to the stakeholders is always presented in a positive way, even when the company is experiencing a difficult financial situation. They would not sacrifice their reputation and prefer to be seen as professionally performing their tasks as a team, in the eyes of the stakeholders. Nevertheless, results from the hierarchical multiple regressions indicated that the institutional investors, top-ten shareholders, and family members on board had a significant effect on the ISCR level.

9.4 Theoretical and Practical Implications

This study provides a methodological extension in evaluating the accruals quality model. Previous studies applied multiple regression analysis; however, this study analysed the models based on Mean Absolute Forecasting Error (MAE) and Mean Square Forecasting Errors (MSE) (Gujarati & Porter, 2009; Marshall et al., 2009) using the out-of-sample observations data. On the other hand, since this is the first study to carry out comparative analysis on the accruals quality models based on

Malaysian data, the empirical findings could become a referred study for future researchers when examining the EQ level of Malaysian data.

As the research setting of this study is quite unique, and very few studies have undertaken analyses on the relationship of EQ and Disclosure, and more specifically Islamic social disclosure (ISCR), the findings add value for future researchers and future policy designs. This study makes a contribution to the social disclosure and earnings quality literature by incorporating and linking the Islamic perspective with several theories, such as Institutional Theory, Environmental Determinism Theory, Agency Theory, and Signalling Theory that were used in testing the hypotheses. Testing the hypotheses from different perspectives provided more comprehensive empirical evidence and clarified the relationship between management decisions and respective stakeholders; as explained in the following paragraphs.

First, nowadays, Malaysians are witnessing a significant increase in the numbers of companies granted SCC status in the capital market, which is also evidence of an increasing level of business adopting *Shariah* principles. This thesis set out with the expectation that with the existence of an additional layer of regulation, namely *Shariah* Law, imposed on the SCCs, the quality of earnings reported and disclosure of information in an Islamic context (ISCR) of Malaysian companies should be of a high standard and sufficiency. This is because, as stated earlier in Section 2.4.1, regulation is vital to ensure that market players are well protected, each of them is treated fairly, and there is proper conduct among them. Regulation should also able to foster positive structural changes within an industry (Hatcher, 1991), influence management's choice of accounting techniques (Holthausen, 1981), and could reduce or prevent unprofessional conduct in accounting, such as destructive earnings management activities (Burgstahler et al., 2006; Collins et al., 1997; Merino & Mayper, 2001; Schmidt, 2005). Failure to comply with the requirements would have a negative impact on the survival of a firm (Deegan, 2006).

However, the findings in Chapter 8 suggest this has not happened: the relationship between EQ and ISCR is negatively associated. Level of EQ would be of low

quality when there are any incentives offered to the business. Management of Malaysian companies would try their best to cover their destructive earnings management activities by presenting more information related to the firms' social commitment. These findings also demonstrate that the sense of responsibility and accountability of management towards God (*Allah*) and stakeholders is still lacking. The existence of an additional layer of regulation is not able to promise the stakeholders higher quality EQ or sufficient ISCR disclosure. Conflict of interest is still a major problem; managements are torn between meeting the needs of stakeholders and prioritizing several competing objectives.

Second, different users have different perspectives and different needs for using company information. Management are expected to try their best to avoid negative perceptions from shareholders by ensuring that information provided is satisfactory and able to assist stakeholders to make effective decisions, without leading to problems of information overload.

In this study, as stated in Table 3.4, the SCCs receive many attractive benefits, and it is believed that the benefit received when disseminating high quality and sufficient information to the users of annual reports would outweigh the cost incurred. Even the information disclosed by the management is sometimes unable to fulfil the expectations of all parties; for the purpose of comparison and flexibility, company disclosure strategies of SCCs should be similar across the same group, and significantly different from their other counterparts so that they would be easily recognised, accepted by regulatory agencies and shareholders (specifically those interested in investments in companies that comply with religious and ethical underpinnings), as well as by other stakeholders, in accordance with the precepts of Institutional Theory.

However, from the results revealed in Section 6.4; it is apparent that there is no significant difference between *Shariah*-compliant, *Shariah* non-compliant, and DLL groups of companies in relation to the ISCR level. The lack of most obvious Islamic themes suggests that management teams of SCCs are not aware of this public expectation; the SCCs are expected to disclose sufficient social information in the Islamic context to enhance the ability of the users, specifically investors who are interested in channelling their savings only into investments that are permissible in Islam, to make sound economic and religious decisions, and to assist them to evaluate whether a firm's activities are operated in accordance with Islamic principles (Haniffa, Hudaib & Mirza, 2005) and particularly with *Shariah* Law.

Third, in terms of the arguments concerning the cultural practices of Muslim society (in this study represented by Malay culture) and Islam as religion and ideology, both are considered coterminous; however, the inclusion of an Islamic Perspective of Accounting framework and Environmental Determinism Theory in testing the hypotheses in this study provides evidence that the cultural practices of a Muslim society are not always in compliance with Islamic principles.

The findings set out in Section 5.8 revealed that companies with a Malay Chairperson tended to have low quality of reported earnings. Although the findings from this study showed that the presence of a Malay chairperson and Malay managing director could influence the management to disclose information related to *Zakat*, *Shariah* Supervisory Board, and Islamic Terminology and Values, overall this study agreed with Baydoun and Willet's (2000) view that Islamic values and cultural values are two different values; especially when related to management behaviour or accounting practices in Malaysia.

As stated in Section 7.8, a possible explanation is that the ISCR and EQ level are more a reflection of professional judgements and practices, with the management adhering to the minimum requirements and following a predetermined format in order to avoid extra costs. This finding also supports the earlier arguments made by Dean and Khan (1997) (see Section 2.4.2.2) that Islam is a religion and ideology,

whereas cultural practices in general do not always conform what is required by the *Quran* and the *Sunnah*.

Fourth, with regard to the relation between IPA conceptual framework, Agency Theory and Signalling Theory; in the IPA conceptual framework, trust and accountability are expected from the management teams that run the business. Accordingly, the information disseminated to the public should be carefully recorded and be of high quality in order to assist users in making economic-religious decisions. However, Agency Theory and Signalling Theory have already discussed the conflicts that may arise between management and shareholders.

Results from the analyses of the relationship between ownership structure and EQ (as reported in Section 5.9) and ISCR (as reported in Section 7.8.4) revealed that the influence of the top-ten shareholders and institutional investors had no significant effect on EQ but was significant in ISCR. This suggests opportunities for possible improvement in the quality of earnings reported and sufficient Islamic social disclosure level, which could be achieved if all the market players, specifically the top-ten shareholders and institutional investors, were able to realize their significant roles and be more productive; continuously monitoring management's activities, and ensuring they have a clear understanding of the firm's activities.

Fifth, when referring to the broader scope, the responsibilities of management towards fulfilling the needs of other stakeholders have been explained by the Stakeholder Theory. Nevertheless, since other stakeholders have limited ability to influence the management and have less control, they can rely on the type of auditors appointed by the firm and also the firm's involvement in foreign activities to ensure that the quality of financial and non-financial information disseminated to them is of a high standard as mentioned in Signalling Theory.

Overall, findings from this study provide evidence that combining Islamic Perspective of Accounting (IPA) framework and all theories (included in this study), contribute to a better understanding of the relationship between EQ, ISCR and

regulatory factors, cultural factors, ownership structure, and market related structure in the capital market of Malaysia that is currently dominated by *Shariah*-compliant companies. To a certain extent, the conceptual framework presented in Table 2.4 at page 69 is able to incorporate new issues into overall discussions of findings in this study as opposed to simply focusing on IPA framework, or other specific theories. It provides a basic scenario for the Malaysian Capital Market, specifically ICM and its instruments.

In terms of practical implications, this study makes available to stakeholders a better understanding of certain factors that could influence the management in making decisions related to the dissemination of financial and non-financial information. Currently, the policy makers and regulators involved in the Capital Market Master Plan 2 (CMP2), specifically on ICM issues, have planned to further internationalise *Shariah*-compliant products, their services and regulations, and to revise the screening method⁴. Additionally, to retain the status of the firms, the SCCs should also revise and renew their strategy in order to be reliable and relevant and to conform to the community's expectation. Therefore, to ensure the success of the proposed plans, findings from the analyses of EQ and ISCR in this study suggests that the level of EQ and ISCR should be further improved.

With respect to the EQ issues, policy makers and regulators should first be able to understand management behaviour when a new product or different incentives are introduced by various agencies into the market. They should also be fully aware of management teams that would manipulate earnings in order to achieve their predetermined target, as has been argued by previous researchers such as Akers et al. (2007), Healy & Wahlen (1999), Jones (1991), and Mulford & Comiskey (2002), and as well as what has been revealed in Section 5.9. Effective measures to assess the quality of earnings reported such as applying McNichols' (2002) model could detect or/and circumvent destructive activities.

⁴ The researcher would like to thank En Zainol Ali, Manager, of the Islamic Capital Market Department of the Securities Commission Malaysia, for this information.

The findings revealed in the earnings quality study presented in Chapter 5 demonstrated that the introduction of *Shariah*-compliant Companies was based on Islamic principles; being listed and de-listed, and then listed again indicated that the managements of the DLL companies were found not serious in fulfilling the requirements set up by the *Shariah* Advisory Council of Securities Commission. Additionally, the SAC decision to revoke the SCC status granted to them could be seen as an indicator of the firms' overall performance.

Chapter 8 also revealed that a low quality of earnings could easily be camouflaged by disclosing more information related to the firm's social contribution. Therefore, in practice, if any agency is inclined to provide incentives or benefits in any situation, it should first form a committee or an investigative team to investigate the companies. Stakeholders should also be aware of this situation before becoming trapped in an unpleasant business environment.

With regard to disclosure issues, as demonstrated in Section 6.4 the empirical results show that the information related to the most obvious Islamic themes such as Underlying Philosophy and Value, *Shariah* Supervisory Board, *Zakat* and Islamic Terminology and Value were still very minimal. This study also revealed that items such as commitments of firms to engage only in permissible activities, approval by SAC or SBB for a new product, were not properly disclosed by the SCCs.

If in year 2006, Bursa Malaysia was able to propose changes in the Listing Requirements requiring companies to disclose information related to corporate social responsibilities, the findings from this study could provide justifications for policy makers and regulators, especially those in the Securities Commission and in the *Shariah* Advisory Council, to initiate significant actions to further enhance the Listing requirement. In addition, a guideline on best disclosure practice in the Islamic perspective should be prepared and issued by the *Shariah* Advisory Council at the Securities Commission to request management teams of companies listed as SCCs to disclose more on the ISCR themes and items. This step could be seen as a relevant and important to improve the disclosure practices, specifically on the

disclosure of information in the Islamic context, so that stakeholders, especially shareholders, could make economic and religious decisions with more complete information. Furthermore, they can have a better understanding of elements of socially responsible and ethical investments and able to assist them to identify companies that actually complied with Islamic principles.

Previous researchers (including Ball & Shivakumar, 2005; Camfferman & Cooke, 2002; Inchausti, 1997; Wallace et al., 1994) examined type of industry when examining regulatory influences in their studies. Generally, firms of the same industry have similar procedures for reporting financial and non-financial information; similar responses to the environment, economic, and political changes, while firms from different industries would employ different practices due to different roles. In line with the expectations set up by these findings; findings in the present study related to type of industry, demonstrated that type of industry is associated with the ISCR level and, in particular, Industrial Products, Plantations, and Properties were found to disclose less ISCR than others.

Information disclosed by the industry specifically on items obviously related to the Islamic Themes such as *Shariah* Supervisory Board, detailed information on products or services offered, firm's commitment in operating within *Shariah* principles/ideals and providing returns within *Shariah* principles would indirectly improve their image, get more attention from prospective investors and assist practitioners or regulatory agencies, specifically the *Shariah* Advisory Council, in the process of evaluating, granting or monitoring the *Shariah*-compliant companies to determine whether they conform with qualitative and quantitative parameters as stated in Table 3.5. When there is insufficient information disclosed in the annual reports by firms from Industrial Products, Plantations and Properties sectors, it is difficult to assess the firms and more tasks need to be carried out in order for users to obtain relevant information so that they could understand the nature of the company they invest in, the detailed activities the company is involved with and whether firms they intend to invest in are capable of fulfilling all the *Shariah* requirements.

Currently, the relevant bodies involved in evaluating and monitoring Islamic Capital Markets come into play at different stages. At the institutional level, the *Shariah* Advisory Council at the Securities Commission will be referred to. This study found that out of 126 SCCs included in the analyses, only one company had set up its own *Shariah* Supervisory Board (SSB). Therefore, what is crucially needed is the in-house experts; the formation of a SSB committee consisting of professionals with formal Islamic education, and individuals who are more knowledgeable in Islamic jurisprudence and Islamic commercial law. They are needed to monitor and evaluate whether what has been developed for the market actually complies with *Shariah* or is merely labelled as Islamic product to take advantage of the popularity of this system.

Looking at the different perspective, the remarkable progress in the development of Islamic products in Malaysia has not been matched by satisfactory knowledge and awareness of the market players. There are still many aspects that they do not yet really understand. Many principles and techniques implemented in the Islamic financial services industry as well as in *Shariah*-compliant companies are not really understood. Most market players understand only general terms such as the avoidance of *Riba*, *Gharar*, and *Maysir*. In the very rapid economic growth, as new products are introduced to the market from time to time, the respective agencies such as the Securities Commission, the Central Bank of Malaysia, the *Shariah* Advisory Council, and Islamic scholars should take every possible action to explain and educate the public, for instance, by organising seminars and workshops. They should also create awareness among the public about the existence of *Shariah*-compliant companies.

In relation to the results revealed on the association between EQ and ISCR; respective agencies, such as the Securities Commission or the Malaysian Accounting Standards Board, should implement and carry out efficient internal as well as external mechanisms to circumvent the practice of management teams attempting to hide their wrongdoings by focusing on the disclosure of good news.

9.5 Limitations and Suggestions for Future Research

Despite strenuous efforts on the part of the researcher, this study suffers from several limitations. First, the validity of the conclusions from the research depends on the extent to which the accounting data of the accruals quality models are extracted. Future research may wish to consider comparing different approaches in assessing EQ, as well as extracting data from various databases or other mediums of communication.

Secondly, this study has evaluated four accruals quality models (Jones, 1991, Modified Jones, 1995, Dechow and Dichev (2002) and Modified Jones and DD Model (2002)) based on a model fit test, out-of-sample observation and MSE and MAE, and limited the sample to companies listed from year 1999 to year 2008. Another approach to determine which model is the best model to predict the performance of a company would be to test the four models on all companies categorised as Listed and Delisted prior to the year that the companies were delisted as *Shariah*-compliant companies. The same procedure could also be used to test companies delisted from the Main Board of Bursa Malaysia in 2007. Models with the highest standard deviation of residuals for those companies would be ranked accordingly. The highest ranking would be considered the best model to identify the earnings management activities of Malaysian companies. However, the number of companies affected during the years of observation was less than 10. Therefore, future research could extend the time period examined and apply the technique of analyses described above⁵.

Third, in evaluating the Islamic social disclosure, this study referred only to the annual reports. As mentioned in Sections 1.7 and 1.9, there are other medium of communication that could be referred to such as additional reports, press releases, interim reports, and company websites. Future research could refer and examine

⁵ The researcher would like to thank the 2010 BAA Doctoral Colloquium participants and faculty for this suggestion.

those reports to provide a more comprehensive and complete analysis. Analyses of different mediums of communication could investigate in detail the impact of cultural factors on the items listed under the Products or Services, *Zakat*, and Islamic Terminology and Value (ITV) themes.

Fourth, in 2006 there had been some changes in the listing requirements of Bursa Malaysia. For example, a new obligation was imposed on corporations to disclose their corporate social activities in their annual report on or after 31 December 2007. Therefore, future research may want to consider extending the disclosure analysis back to the annual reports for year 2006, specifically for companies which had December 2007 year-ends. In this way it would be possible to examine whether the items disclosed by companies in the year ending 31 December 2007 had also been disclosed by those companies in 2006.

Fifth, it was found that only one company had set up an in-house SSB. This study therefore, was unable to further examine issues related to SSBs. As practiced by the financial institutions, members of SSBs should be appointed by the shareholders and represented by the Board of Directors. Their remuneration is proposed by the management and approved by the Board. With regard to *Shariah* matters, they are expected to provide their professional services to the company, assess the nature of business operations, and be responsible to submit unbiased opinions to the stakeholders. In performing their duties, they are expected to be independent, competent, and consistent (Grais & Pellegrini, 2006). Hence, future research may consider undertaking another methodological approach such as interpretivism or constructivism to conduct a qualitative study to examine the benefits or disadvantages of the existence of an SSB in a firm.

9.6 Conclusion

This chapter has provided an overall summary of the thesis, beginning with summaries of the main empirical findings, followed by a reiteration of the research objectives and methods used. Next, the practical and theoretical implications of the findings were highlighted. Finally the limitations of the study were discussed, with suggestions for ways of overcoming them, together with suggestions for possible directions for future research.

In summary, the results support McNichols' argument that the combination of the Dechow and Dichev (DD) (2002) model and the Jones (1991) model strengthens both approaches. The findings also provide support for the existing debate on the issue that the level of earnings quality of Malaysian companies fluctuates; incentives offered encourage management to manage earnings upwardly, thereby resulting in low quality of earnings reported. Additionally, with regard to Islamic social disclosure, even though the Islamic Capital Market was introduced 12 years ago, items related to Islamic social disclosure are still lacking. Therefore, further attention and action by respective agencies such as the *Shariah* Advisory Council at the Securities Commission are of the utmost importance. Finally, the negative correlation between ISCR and EQ presents evidence that the problem caused by information asymmetries remains difficult to deal with, notwithstanding that the concept of accountability before God as emphasised in Islamic principles should be an integral element of accounting practice, especially in the companies listed as *Shariah*-compliant.

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