

**SHARIAH RISK MANAGEMENT PRACTICES OF
ISLAMIC BANKS IN MALAYSIA**

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**MASTER IN ISLAMIC FINANCE AND BANKING
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OF ISLAMIC BANKS IN MALAYSIA**

By

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ABSTRACT

Shariah risk management practices are crucial for the stability and reputation of the Islamic banking industry. Thus, the purpose of this study is to determine the factors that influence Shariah risk management practices among Islamic banks in Malaysia. Islamic banking staff in the Shariah department in five (5) Islamic banks are surveyed through a questionnaire and the results are used to examine whether Shariah risk management practices is influenced by Shariah risk management process, Shariah board involvement, knowledge and expertise. Additionally, statistical method such as multiple regressions was used to test the hypothesis. This study found that Shariah risk management practices among Islamic banks in Malaysia are moderate. Other findings show that Shariah risk management practices are influenced by Shariah risk management process and expertise in both Shariah and banking operation by the employees. This explains that higher level of Shariah risk management process and expertise among staffs will lead to a higher level of Shariah risk management practices. On the other hand, two independent variables have not given much significant influence on Shariah risk management practices. Although the response rate is 86.08%, it represents beliefs, which are not necessarily translated into actions. This study makes a significant contribution to the academic understanding of Shariah governance in the context of Malaysia, which may guide policy makers, bankers, and customer. It is expected that the results of this study would give realization to the regulators to strengthen and strictly promote the Shariah compliance in all Islamic banking products and services and put a greater emphasize on Shariah risk management. In addition, it is important for the Islamic financial institutions to widen a well-organized and synchronize Shariah risk management process through understanding Shariah risk, proper identification, and assessment of the possible occurrence of the risk as well as monitoring all the products and services to control Shariah non compliance events. Lastly, the Islamic financial institution must train experts that will enhance the Shariah risk management practices through training policies in both Shariah and banking operation, proper qualification among staff and Shariah coordination in ensuring Shariah compliance to attract more customers.

Keywords: Shariah compliance, Shariah risk, Shariah risk management, Islamic banks

ABSTRAK

Amalan pengurusan risiko Shariah amat penting bagi kestabilan dan reputasi industri perbankan Islam. Oleh itu, tujuan kajian ini adalah untuk mengkaji faktor-faktor yang mempengaruhi amalan pengurusan risiko Shariah di kalangan bank-bank Islam di Malaysia. Kakitangan perbankan Islam di Jabatan Shariah lima (5) bank-bank Islam ditinjau melalui soal selidik. Seterusnya, maklumat tersebut digunakan untuk menilai sama ada amalan pengurusan risiko Shariah dipengaruhi oleh proses pengurusan risiko Shariah, penglibatan ahli lembaga Shariah, pengetahuan dan kepakaran. Selain itu, kaedah statistik termasuk regresi pelbagai telah digunakan untuk menguji hipotesis. Kajian ini mendapati bahawa tahap amalan pengurusan risiko Shariah di kalangan bank-bank Islam di Malaysia adalah sederhana. Dapatan lain, menunjukkan amalan pengurusan risiko Shariah dipengaruhi oleh proses pengurusan risiko Shariah, kepakaran dalam Shariah dan operasi perbankan oleh pekerja. Ini menerangkan bahawa apabila tahap proses pengurusan risiko Shariah dan kepakaran di kalangan kakitangan meningkat, tahap amalan pengurusan risiko Shariah juga akan meningkat. Sebaliknya, dua pembolehubah bebas didapati tidak memberi pengaruh yang besar ke atas amalan pengurusan risiko Shariah. Walaupun kadar tindak balas adalah 86.08%, itu merupakan kadar kepercayaan dan tidak semestinya diterjemah ke bentuk tindakan. Kajian ini memberi sumbangan yang amat penting kepada pemahaman akademik tadbir urus Shariah dalam konteks Malaysia yang menjadi panduan kepada pembuat dasar, bank-bank dan pelanggan. Dapatan kajian ini juga akan memberi kesedaran kepada pengawal selia untuk memperkukuh dan mengutamakan pematuhan Shariah dalam semua produk dan perkhidmatan perbankan Islam, seterusnya memberi keutamaan kepada pengurusan risiko Shariah. Di samping itu, ia adalah penting bagi institusi kewangan Islam untuk memperluas dan menyelaraskan proses pengurusan risiko Shariah melalui pemahaman tentang risiko Shariah, pengenalpastian dan pemantauan terhadap kemungkinan risiko dan memantau semua produk dan perkhidmatan untuk mengawal ketidakpatuhan Shariah. Akhir sekali, institusi kewangan Islam perlu melatih pakar-pakar yang akan meningkatkan amalan pengurusan risiko Shariah melalui dasar latihan dalam Shariah dan operasi perbankan, kelayakan yang bersesuaian di kalangan kakitangan dan penyelarasan Shariah dalam memastikan pematuhan Shariah untuk menarik lebih ramai pelanggan.

Keywords: Pematuhan Shariah, Risiko Shariah, Pengurusan Risiko Shariah, Perbankan Islam

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LIST OF ABBREVIATIONS

AAOIFI	Accounting and Auditing Organization for Islamic Financial Institution
BCBS	Basel Committee on Banking Supervision
BNM	Bank Negara Malaysia
CFA	Confirmatory Factor Analysis
DV	Dependent Variable
EFA	Exploratory Factor Analysis
GIFF	Global Islamic Finance Forum
IDB	Islamic Development Bank
IFI	Islamic Financial Institution
IFSA2013	Islamic Financial Services Act of 2013
IFSB	Islamic Financial Service Board
IFN	Islamic Finance News
IIFS	Institution offering only Islamic Financial Services
IV	Independent Variable
KFH	Kuwait Finance House
KLIFF	Kuala Lumpur Islamic Finance Forum
SB	Shariah Board
SBI	Shariah Board Involvement
SC	Shariah Compliance
SRM	Shariah Risk Management

CHAPTER ONE

Introduction

This chapter introduces the background of the global Islamic banking industry, particularly in Malaysia where this study was conducted. The chapter consists of seven parts. These parts highlight the problem statements, research questions and objectives, followed by the significance of the study, the scope of the study and definition of key terms. The chapter concludes with the explanation of the organization of the research.

1.1 Background of the Study

The Islamic banking sector has been the driving force of the global Islamic finance industry. In many Islamic countries, Islamic banking system remains as the core of financial services (Makiyan, 2008). The increasingly important role has been witnessed in connecting economies through the mobilization and channeling of funds for productive investment activities not just locally but internationally. It includes the increasing international participation in Islamic financial markets and improved cross-border activities which are based on the principles of Shariah.

The demand for Shariah-compliant products is increasing as the wealth of Muslims rises, spurred by the export-led Asian economic growth and crude oil income in the Persian Gulf. A report from the Global Islamic Finance Forum (GIFF) 2012 stated that there are currently more than 600 Islamic financial institutions worldwide that are located in more than 75 countries including Malaysia. According to Kuwait Finance House (KFH) research on Islamic finance outlook 2014, Islamic banking assets are expected to reach USD1.6 trillion by the end of 2014.

The Islamic finance industry in Malaysia has been in existence for over 30 years and the awareness of Shariah-compliant finance continuously increases. The step-by-step loom was implemented to produce a comprehensive Islamic financial industry. The passing of the Islamic Banking Act 1983 enabled the country's first Islamic bank to be established and from then on, with the liberalization of the Islamic financial system, more Islamic financial institutions have been instituted (Ab. Aziz, Shukor, & Abdullah, 2014). The preface of Islamic “windows”, which permitted conventional financial institutions to offer Shariah-compliant banking products and services, enabled the Islamic banking industry to grow. This further facilitated the creation of a dual-financial system, in which Islamic finance operates in conjunction with the conventional financial system.

Shariah compliance is the backbone of Islamic finance and banking industry (Aznan, 2007). According to Hasan (2009), it ensures and guarantees the dynamicity of industrial growth. Shariah-compliant banking is a type of banking which meets all the requirements of Shariah and the principles articulated in Islamic finance. It must follow a variety of rules and all its activities and operations must be based on Shariah. For example, Shariah-compliant banks must invest only in Shariah-compliant companies, and refine certain outlawed types of income such as interest income by donating them to charity. Archer and Abdullah (2007) stated that Islamic bank’s legality and potency in the market place is the Shariah compliance. This is because the fund’s provider or customer uses Islamic banking product and services as a matter of laws and beliefs. In addition, according to Archer and Abdullah (2007), the customer’s perception of Islamic banking on being Shariah-compliant is important to maintain customer loyalty.

Islamic Finance Principles

El Hawary, Grais, and Iqbal (2004) stated that Islamic finance can be defined into four (4) principles: (1) risk sharing (2) materiality (3) no exploitation and (4) no financing of sinful activities.

(1) Risk sharing – In any Islamic transactions, asymmetrical or risk sharing must reflect to each party involved (El Hawary et al., 2004). According to Standard & Poor's (2008), risk sharing is defined as the sharing of contracting parties of risk and reward attached to an Islamic financial transaction. At the end of agreed periods, an Islamic bank has to share its profit with its partner who acknowledged risks of investments. Instituting genuine profit or loss sharing scheme will convey many different options for financial institutions and depositors/savers (Sekreter, 2011).

(2) Materiality – Material finality in a financial transaction is important as it is directly or indirectly linked to real economic transaction (El Hawary et al., 2004). It is debarred not only to provisional transactions, such as options and future sales, but also hedging by forward sales, interest rate swap and all other forms of derivatives (Khan, 2010). According to Ginena (2014), subsistence of a one-to-one association between financing and real market transactions is one of the most prominent values of Islamic financing.

(3) No exploitation – Another principle of Islamic finance is engaging in fair transactions in which there is no exploitation of the parties and the consequences of contracts and legal documentations are clear in recognizing the relationship between ownership and profit entitlement (Ginena, 2014; Khan, 2010; El Hawary et al., 2004)

(4) No financing of sinful activities – The Islamic finance and banking industry must ensure that unethical items or industries such as tobacco, alcohol, arms and pornography are not the subject of financing and interest must strictly be avoided (Ginena, 2014; Zahari & Shanmugam, 2009; El Hawary et al., 2004).

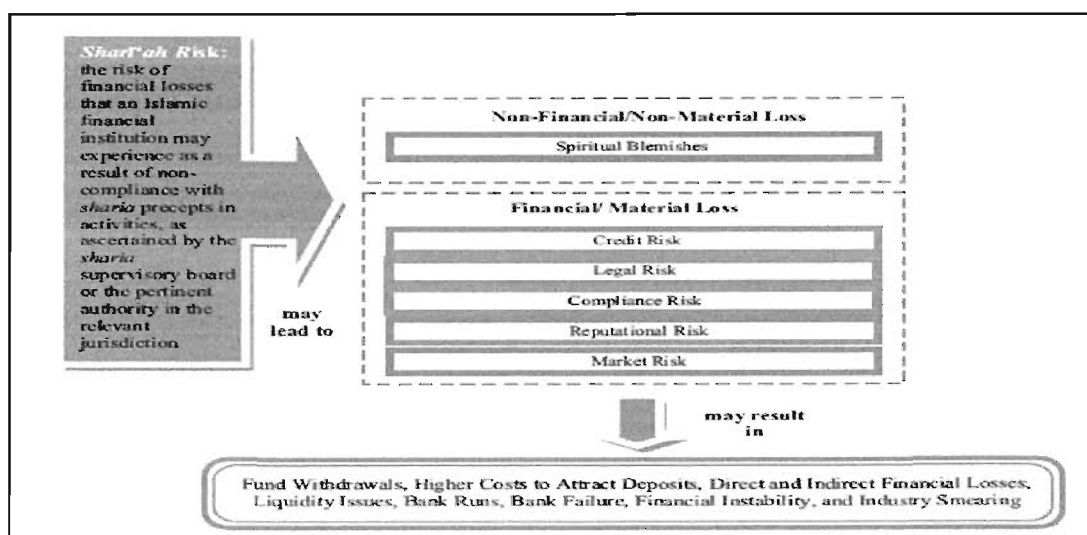
On the contrary, failure to comply with Shariah will cause Shariah non-compliance risk. This risk will affect the reputation and stability of the Islamic banking industry resulting further to fiduciary and reputational risk (Aznan, 2007). According to Ali (2003), Shariah non-compliance risk could prompt excessive withdrawals of customer deposits which results to a bank failure. Compliance to Shariah is critical to Muslim consumers, investors, and clients due to their religious belief of limiting consumption to which is good and wholesome ("*halal/ 'un tayyib*") while prohibiting what is foul, harmful, unjust or sinful (DeLorenzo, 2007).

Chapra and Ahmed's study in 2012 reported that 85.6% of Islamic bank depositors in Bahrain, 66.8% in Bangladesh, and 94.6% in Sudan would withdraw their deposits, and move to another bank if their Islamic bank did not abide by Shariah in its business.

Shariah Risk Possible Implication

Shariah risk has bad implication that can transform to other types of risk such as credit risk, market risk, legal and compliance risk, and reputational risk (Ginena, 2014; Sulaiman, 2013).

Figure 1.1
Possible Implication of Shariah Risk



Source: Ginena (2014)

Credit risk - Credit risk might reduce the confidence of stakeholders who realize that the Islamic bank is not living up to its commitments and if this risk is not appropriately managed (IDB & IFSB, 2007). This may result in customers breaching their financial contracts with the bank, thereby resulting to credit risk. Such breaches may happen if customers are unwilling to meet their obligations for three possible reasons: the belief that the contract that they had entered into has been voided on Shariah grounds, no confidence in the institution's practices and the feeling of being betrayed by the institution. If the contract is nullified due to Shariah violations, then this would lead to the emergence of unlawful income and the exclusion of the corresponding transaction's profits from the bank's income (AAOIFI, 2010). Therefore, this fund would then be transferred to an account that is supervised by the Shariah board (SB) and appropriated to charitable causes.

Market risk - Market risk refers to the ownership of stocks of Islamic banks that became Shariah non-compliant due to some reasons such as having debt to market capitalization ratio exceeding 30% which then obligates the bank to liquidate the stocks. This may occur at a time when the stocks are valued at a price less than the purchase price, thereby leading to losses.

Legal and compliance/regulatory risk - Shariah risk could result in legal and compliance risk. These two types of risks are frequently considered synonymous. However, legal risk often relates to failure to adhere to contractual obligations and the unenforceability of contracts, while compliance risk often relates to failure to adhere to laws and regulations (Ginena, 2014).

As stated by the Basel Committee on Banking Supervision (2005),

“The risk of legal or regulatory sanctions, material financial loss, or loss of reputation a bank may suffer as a result of its failure to comply with laws, regulations, rules, related self-regulatory organization standards, and codes of conduct applicable to its banking activities” (BCBS, 2005, p. 7).

Shariah risk can also lead to regulatory risk. For example, the regulations mandated the bank to set up a cautious internal Shariah governance arrangement but the bank failed to do so. In such case, the bank may be fined for its contraventions or even lose its license to operate. The Malaysian Islamic Financial Services Act of 2013 requires Islamic financial institutions to comply with Shariah at all times. It also requires the IFIs to become more aware of Shariah non-compliant activity. Moreover it requires IFIs to (a) immediately notify the central bank, (b) cease from carrying on such non-compliant activity, and (c) submit a plan for rectifying things within 30 days of becoming aware of the noncompliance. Those who contravene these guidelines

commit an offense and upon conviction are liable to imprisonment for a term not exceeding 8 years or a fine not exceeding 25 million Ringgit (approximately 8 million US dollars) or both.

Reputational risk- Failure of an Islamic bank to comply with Shariah can be considered as a betrayal of the trust of customers and therefore may lead to a possible loss of income (El Hawary et al., 2004). The activities of banks involve the general public to a great extent. Hence, earning and preserving their trust and confidence is crucial for banking success (Leventis, Dimitropoulos, & Owusu-Ansah, 2013).

According to Basel Committee on Banking Supervision (2001), customer due diligence for banks is,

“The potential that adverse publicity regarding a bank’s business practices and associations, whether accurate or not, will cause a loss of confidence in the integrity of the institution” (BCBS, 2001, p. 4).

Islamic banks in particular cannot afford to lose their credibility when it comes to abiding by Shariah in their activities because such credibility is at the core of their business (Archer & Abdullah, 2007). The reputational risk that results from Shariah contraventions or from rumors regarding them may lead to a loss of depositors and other stakeholders, thereby affecting market position, liquidity, and profitability of the bank (IFSB, 2005).

Concept of Shariah Risk

According to Bälz (2008), the Shariah risk is refers to the likelihood that a transaction in Islamic finance is challenged on the argument that it does not act in accordance

with Islamic law. It occurs because institutions offering only Islamic Financial Services (IIFSs) failed to meet the terms of Shariah ruling and principles, concluded by the pertinent Shariah board of the IIFSs or the appropriate body with the authority where the IIFSs work. Archer and Abdullah (2007) and Sulaiman (2013) states that Shariah risk falls within the category of operational risk. According to GIFF (2012), operational risk is a risk for an Islamic bank when losses are due to higher complexity, lack of knowledge of staff, inadequate internal processes and system failure.

Furthermore, Shariah risk is becoming more complex attributable to its unique contractual feature and general legal environment (Abdullah, Shahimi, & Ismail, 2011). Thus, for an Islamic financial institution, Shariah risk must be carefully managed as it will affect the stability of the bank (Lahsasna, 2014). According to Sulaiman (2013) and Chik (2013), the Shariah risk management is crucial to ensure strong Shariah compliance.

Shariah risk management practices play a significant role in managing Shariah risks. Thus, it needs a process to identify Shariah risk, measure the likelihood of its impact, implement adequate and effective control to manage that risk and monitor and report Shariah risk exception. However, it might be difficult to enhance Shariah risk management process without the support of the Shariah Supervisory Board (SSB). Hassan (2011) posits that passive role of Shariah board is important, particularly in the Shariah control process. In addition, ensuring also the staff's knowledge and expertise would help to boost the Shariah risk management practices of an Islamic bank (Bank Negara Malaysia, 2010).

Therefore, determining the factors of Shariah risk management practices of Islamic banking system is important. In this context, this research aims to identify the factors influencing Shariah risk management practices of Islamic banks in Malaysia.

1.2 Problem Statement

Shariah risk is a problem for an Islamic bank because it could prompt withdrawals of deposits due to bad reputation (Ali, 2003). Shariah risk exists due to Shariah non-compliant transactions and activities by the Islamic finance and banking institution. If a Shariah non-compliant is detected in a transaction, the whole transaction needs to be aborted because it is *haram*, resulting in a bank incurring huge losses leading to bank failure (Ahmad, Abubakar, & Isa, 2009). Thus, Shariah risk in general is hazardous on the reputation and stability of the industry (Ginena, 2014). Because of this, banks are very cautious not to incur any Shariah risk (directly) or not even be involved in a transaction where the counterpart could be engage in non-Shariah compliant activities (indirectly). Despite the seriousness of the Shariah risk of Islamic banking industry, studies on factors which influence the effective practices of managing Shariah risk have not been widely conducted. Hence the present research aims to fill the gap by identifying the factors that influence the Shariah risk management practices of Islamic banking in Malaysia.

One of the causes of Shariah risk is an internal process of a bank (Ginena, 2013; Lahsasna, 2014). A research conducted by Ahmad et al. (2009) found that 27% of their respondents agreed that Shariah risk exist in Wadiah deposit contract and Mudharabah deposit contract in Islamic banks in Malaysia. In other words, there appears to be a failure of Shariah risk management process to identify and monitor the

Shariah risk event throughout the duration of the contract. The consequence of not properly identifying the possible occurrence of Shariah risk events throughout the contract life span will intensify the problem even though the contract is Shariah-compliant in the beginning. Shariah risk management process is a process of understanding risk and risk management, identification, assessment, analysis and monitoring risk (BNM, 2010). The relationship between internal process and effective Shariah risk management and how much it influences Shariah risk management has not been widely investigated.

The second issue faced by Islamic banks is the lack of Shariah board's involvement in the identification of Shariah risk management processes. The issue is that compliance with the Shariah can be attributed to the passive role of the Shariah board in the Islamic bank (Hamza, 2013). This is evident from Hasan's (2011) study which shows that some Islamic financial institutions have identified that the Shariah board to a certain extent does not give adequate attention to some important aspects of Shariah governance especially in terms of identifying Shariah non-compliance risk, contributing to Islamic ethics and values as well as the Shariah control process. The issue highlighted by Hassan (2011) needs further investigation as to whether the Shariah Board improves their attention to Shariah risk and how it influence Shariah risk management.

The issue of personnel's lack of knowledge on both Shariah and Islamic banking operation aspect could also be another factor leading to occurrence of Shariah risk. Ahmad et al. (2009) interviewed face to face fifteen (15) chief risk officers and risk managers of Islamic banks in Malaysia regarding Islamic risk management practices.

They found that 60% of their respondents agreed that there is a lack of knowledge among staff of Islamic banks in Malaysia. In line with this, an interview conducted with the former CEO of an Islamic bank and head of Islamic risk management department by the researcher supported the findings of Ahmad et al. (2009) that there is a lack of knowledge on Shariah, banking operation and Islamic understanding among Islamic bank staff. As a consequence of lack of Shariah knowledge in Islamic banking operation would result to inadequate fulfillment of the task, such as Shariah auditing transaction, documentation of Islamic contracts, not knowing what is valid or invalid, and other related matters that could further aggravate the problem. The gap established here is that research done by Ahmad et al. (2009) is using questionnaires and interviews, accompanied only with descriptive results. This study aims to investigate the significant relationship of knowledge on the effective management of Shariah risk.

Lack of expertise on both Shariah and banking operation could be another factor that would lead to inconsistency and serious adverse decision in terms of Shariah risk (IFN, 2013). Ahmad et al. (2009) interviewed fifteen (15) chief risk officers and risk managers of Islamic banks in Malaysia. Based on the interview, the result shows that 80% of the respondents agreed that there is a lack of skills in both Shariah and banking operations associated with the bank staff. The problem is that lack of quality people inherently creates challenges, which are particularly sensitive around product structuring and Shariah compliance. According to BNM (2010), due to the Shariah risk technicality, such expertise is important to be able for the staff to respond automatically and avoid such problem. This will probably be the first initiative to statistically test the influence of expertise and experience of the staff on Shariah risk

management. The expected finding could provide substantial evidence of the need to have qualified and experienced staff to manage Shariah risk.

1.3 Research Questions

- What is the relationship between Shariah risk management processes and Shariah risk management practices?
- What is the relationship between Shariah board involvement and Shariah risk management practices?
- What is the relationship between knowledge and Shariah risk management practices?
- What is the relationship between expertise and Shariah risk management practices?
- What are the factors that influence Shariah risk management practices?

1.4 Research Objectives

- To identify the relationship between Shariah risk management processes and Shariah risk management practices.
- To examine the relationship between Shariah board involvement and Shariah risk management practices.
- To identify the relationship between knowledge and Shariah risk management practices.
- To examine the relationship between expertise and Shariah risk management practices.
- To identify the factors that influence Shariah risk management practices.

1.5 Significance of the Study

The result of this study is significant to Shariah boards, Islamic finance and banking regulators, the board of directors and managers as well as the academicians. This study is important for the following:

Regulatory bodies or authorities: This study would give insight for the regulators to enhance the regulation for the Islamic financial institutions (IFIs) to have an assurance of Shariah compliant and avoidance of exposure to Shariah non-compliance risk as possible for the future of IFIs. The regulatory body must put greater emphasis on the implementation of Shariah risk management.

Shariah board (SB): The study is important for the Shariah board to strengthen their supervision and go beyond their task to mitigate the exposure of Shariah risk that affects the credibility of the industry in general.

Board of directors (BoD) and executives: This study will be useful to board of directors and executives since they have the fiduciary duty towards stakeholders to ensure Shariah compliance (AAOIFI, 2010). It will also give an impact to the board of directors to give guidance on the Shariah risk management, develop a comprehensive Shariah risk management policy, cultivate cultures that underscore the importance of Shariah compliance, and adequately comment on Shariah risk policies.

Shariah risk management group: The study will also be useful for the Shariah risk management of the Islamic financial institution in assessing the potential occurrence

of Shariah risk, raise the level of Shariah risk management exercises and making possible processes in line with the rules of Shariah law.

Investor and fund providers (depositor): Shariah compliant product and services is a matter of belief as well as perception and have a great importance to customer regarding IFIs. By recognizing that the activities of IFIs are Shariah compliant or not, they will have an idea whether to invest and deposit in that institution.

Academicians: This study is useful for the academicians to further explain the organs of Shariah Governance Framework model for Islamic financial institutions to the future Shariah board/committee and bankers so that they might have the right understanding of Shariah governance for Islamic financial institutions.

1.6 Scope of the Study

This study is focused on the area of Shariah risk management practices of Islamic banks. It will identify factors that provide a significant influence in enhancing Shariah risk management practices of Islamic banks in Malaysia. The study treats Shariah risk management process, Shariah board involvement, knowledge, and expertise as independent variables which in turn affect the level of Shariah risk management practices which is the dependent variable. In terms of location, the researcher investigates five (5) Islamic banks in Malaysia operating under the supervision of Bank Negara Malaysia. However, Islamic bank's headquarters in Kuala Lumpur has been considered since the Shariah department is located in their respective headquarters. The period of the study is from February to November 2014. The

respondents for the purpose of this research are the staff in the Shariah department/division.

1.7 Definition of Terms

In this section, the researcher would like to explain the operational definition of the entire construct contained in the research framework. In this research, the frameworks and major constructs are defined by combining such definition allocated to the same construct in prior studies or literature. The five constructs identified are the following:

- a) Shariah risk management practices – is defined as a task to systematically understand, identify, measure, monitor and control Shariah non-compliance risk to mitigate any possible non-compliance events (BNM, 2010).
- b) Shariah risk management process – is a process of identifying, measuring, controlling and monitoring Shariah non-compliance risks inherent in the IFI's operations and activities (BNM, 2010).
- c) Shariah board involvement – is the Shariah board identification of Shariah non-compliance risk, contributing to Islamic ethics and values as well as the Shariah control process (Hassan, 2011).
- d) Knowledge – knowledge of Shariah is the means of awareness of the permissible (halal) and impermissible (haram) (Qadri, 2008).
- e) Expertise – expertise is defined as a problem-solving awareness that allows a person to achieve several sets of tasks successfully and efficiently (Gibbins & Jamal 1993; Davis & Solomon, 1987).

1.8 Organization of the Study

This research consists of five chapters. The following is the summary of each chapter:

Chapter 1 provides a brief introduction, background and the study's research problem. It then outlines the research questions, objectives, definition of key terms, the significance of the study, the scope of the study and finally it presents the organization of the study.

Chapter 2 contains the literature review with a focus on previous research. It covers the explanation of Shariah risk management practices as a dependent variable, Shariah risk management process, Shariah board involvement, knowledge, and expertise as independent variables.

Chapter 3 explains the framework of the research and it states the hypothesis. Moreover, it presents the research methodology and justifies methods that have been used in this study. Then it explains the population and sample of the study and the data collection and the development of the instruments. Lastly, it covers methods used for data analysis.

Chapter 4 presents data analysis, factor and reliability analysis, data screening and descriptive analysis. In addition, it presents the application of regression analysis technique through the use of SPSS software (version 20). Lastly, it presents the respondents' views and suggestion on Shariah risk management practices followed by chapter summary.

Chapter 5 presents the recapitulation of the entire study and discusses its findings, including the research implications and contributions. It then elaborates the research limitations and recommendations followed by a conclusion.

CHAPTER TWO

Literature Review

2.1 Introduction

In this chapter, previous studies relevant to this research would be discussed in order to understand the area of study. Sekaran (2003) says that literature review is a documentation of the inclusive reviews of the published work and is obtained from the sources of data information gathered on the specific subject of the researchers. This study will identify whether Shariah risk management practices is influence by Shariah risk management process, Shariah board involvement, knowledge and expertise.

2.2 Components of the Research Framework

2.2.1 Shariah Risk Management Practices

Shariah risk management practices are essential factor in understanding how well the banks reduce their exposure to Shariah non-compliant event. According to BNM (2010), the Shariah risk management is a function to systematically identify, measure, monitor and control of Shariah non-compliance risks to mitigate any possible non-compliance events. The systematic approach of managing Shariah non-compliant risks will enable the Islamic financial institution to continue its operations and activities effectively without exposing to unacceptable levels of risk.

Accurate planning and implementation of Shariah risk management is very important to maintain the market confidence and credibility of the industry (Chik, 2013; Sulaiman, 2013). This means that appropriate implementation of Shariah risk

management will give significance to Islamic banking industry will strengthen the assurance on Shariah compliance. The board of directors, Shariah department, Shariah audit function and internal audit, line manager and all staff must be guided by a Shariah risk management policy that is supplemented by several Shariah guidelines and the importance of Shariah and the impact to the institutions if Shariah principles are not observed (Hanefah, Shafii, Salleh, & Zakaria, 2012).

There are many studies that investigate the factors affecting risk management practices of the banking system. For instance, Abu Hussain, and Al-Ajmi (2012) looked into Bahrain's Islamic and conventional banks' risk management practices. They identify the determinant factors of risk management practices of conventional and Islamic banks in Bahrain which is a risk management process. The result revealed that risk management process gives significant influence on risk management practices of the banking system in Bahrain.

Hassan (2009) and Khalid and Amjad (2012) investigated Brunei Darussalam and Pakistan Islamic banks' risk management practices respectively. Both studies in Pakistan and Brunei Darussalam posit that risk management practices are determined by risk management process in which managers understand risk and risk management, efficient risk identification, risk assessment analysis and risk monitoring. The studies identified that risk management process affects the level of risk management practices of Islamic banks. This was supported by the study of Rahman, Noor and Tariq (2013) which revealed that there is a significant relationship between risk management process and risk management practices of Islamic banks in Malaysia and Egypt.

Therefore Shariah risk management process might have a significant role in an effective Shariah risk management practice.

Rahman et al. (2013) analyze the importance of board involvement in risk management practices of Islamic banks in Malaysia and Egypt. Accordingly, board involvement in risk management practices gives significant effect on the level of risk management practices of Islamic banks in Malaysia and Egypt. This strong Shariah board involvement would lead to better Shariah risk management practices for Islamic banking (Rahman et al., 2013)

According to Massingham (2010), knowledge is necessary to comprehend and manage the risk. In addition, De Zoysa and Russell (2003) stated that risk identification and risk response depend heavily on knowledge. Apgar (2006) advocated that knowledge moves individuals along the spectrum of uncertainty towards certainty; making risk a 'learnable' rather than an entirely random event. Thus, it is important that Islamic bank staff have sufficient knowledge on both Shariah and banking operation to effectively manage any event of risk especially Shariah risk.

In addition, for better risk management practices, expertise plays a vital role in its effectiveness. According to May (2012), KPMG (2009) and Eick (2003), there is a need for an expertise and competent staff in managing risk properly. Therefore, an organization's achievement is influenced by how the staff efficiently handles and manages the risks that they faced (Nicole, 2013). Thus, this study will test the

relationship of Shariah risk management process, Shariah board involvement, knowledge and expertise towards Shariah risk management practices.

Therefore the conceptual definition of Shariah risk management practices is the identification, measuring, monitoring and controlling of any Shariah non-compliance risk event (BNM, 2010).

2.2.2 Shariah Risk Management Process

According to BNM (2010), the term Shariah risk management process is a process to identify all potential Shariah risks. The suitable and corrective assessments are required to be taken to lessen the risk and enhance the Shariah risk management in their practices. According to Ismail (2010), risk management process in any banking institution, policy makers and regulators of financial market is generally accepted as one of its main objectives to protect possible financial losses of the bank. In addition, risk management process depends directly on changes in the internal and external environment of banks (Ismail, 2010). Therefore, these changes in the environment require a process of identification of risk and risk control (Abu Hussain & Al-Ajmi, 2012).

Thus, similar to every valuable business action, Islamic banks' Shariah risk management needs a process with an obvious rationale, trustworthy input, well-made activities and value-added output to increase the level of Shariah risk management practices (BNM, 2010). Al-Tamimi and Al-Mazrooei (2007) explained that risk management process will ensure that risk management practices are in line with and it will help the bank to identify and mitigate the risk at the early stage (Al-Tamimi &

Al-Mazrooei, 2007). Therefore, this encourages the banks to have a proper management process of Shariah risk. It is important because having a proper process of managing Shariah risk will ensure Shariah compliance. It would hinder the exposure of Islamic banks towards reputational and other types of risks (Ginena, 2014).

There are many studies that investigate the relationship of the risk management process towards risk management practices. For example, Rosman (2009) studied the important aspects of the risk management process which includes understanding risk, risk identification, risk assessment and analysis, and risk controlling and monitoring. His study shows the importance of risk management process aspects in order to have proper risk management practices. Thus, the study reveals that risk management process has a positive relationship with risk management practices. There are also some empirical studies that looked into the relationship between risk management process and risk management practices, for example, Hassan (2009), Khalid and Amjad (2012), Abu Hussain and Al-Ajmi (2012) and Rahman et al., (2013).

Hassan (2009) examines the risk management practices of Islamic banks in Brunei Darussalam. The study revealed that the risk management practices are determined by risk management process in which managers understand risk and risk management, efficient risk identification, risk assessment analysis as well as risk monitoring. Similarly, Khalid and Amjad (2012) study the relationship between risk management process and risk management practices of Islamic banks in Pakistan. Their study showed that risk management process significantly influenced the level of risk management practices of Islamic banks in Pakistan. Thus, Shariah risk management is

through understanding of risk and risk management, efficient risk identification, risk assessment analysis as well as risk monitoring (Khalid & Amjad, 2012).

A study on the risk management process effectiveness towards risk management practices of Islamic and conventional banks in Bahrain had been conducted by Abu Hussain and Al-Ajmi (2012). The study posits that risk management practices are determined by the risk management processes. A study conducted by Rahman et al. (2013) indicates that risk management process significantly influences the level of risk management practices of Islamic banks in Malaysia and Egypt. The study found that risk management practices relied more on risk management process. Thus, the result demonstrated that the higher the level of risk management process, the more positive increase on the level of risk management practices.

This means that well built risk management process will lead to high level of risk management practices. The conceptual definition of the Shariah risk management process is the Islamic financial institution procedure on understanding Shariah risk and Shariah risk management, identifying and assessing Shariah risk as well as the process of monitoring and controlling any possible occurrence of Shariah non-compliant event (BNM, 2010).

2.2.3 Shariah Board Involvement

Hamza (2013) affirms that non-compliance with Shariah can be attributed to the passive role of the Shariah board. The term “Shariah board involvement” refers to the Shariah supervisory board or Shariah committee involvement in managing Shariah risk. According to Hasan (2011), it is the function of the Shariah board to identify

Shariah non-compliance risk and contribute to Islamic ethics and values of the institutions as well as Shariah control process.

The management of Shariah risk is important to Islamic banking system, thus, it needs a massive consideration. However, without the strong support of the Shariah board, it might be difficult to boost Shariah risk management practices. Thus, accomplishing risk management practices can only be achieved if everybody supports the organization. Shariah board's involvement in Shariah compliance aspects is very crucial to the IFIs' function in general. Shariah board is entrusted with directing and supervising the activities of IFIs' so that they are in compliance with the Shariah principles which are the main objective of the Islamic banking industry (AAOIFI, 2010).

According to Zahra and Pearce (1989), placing a premium on board's strategic contribution is important, specifically the board's involvement and contribution to the articulation of the firm's mission, the development of a firm's strategy and setting of guidelines for implementation and effective control of the chosen strategy. According to Nicole (2013), the Board takes part in oversight role, but it depends on the problem or the company's situation. The role of the board can move from overseer to vigorous partake. Thus, risk oversight must not be seen as a process unto itself. Relatively, it is the establishment for the entire board and management to accurately administer the organization and create sound decisions (Nicole, 2013). This is because achieving organization's goal is the board leadership representation.

In actual fact, according to most banking laws, ultimate responsibility for risk management is placed with the Board (Rahman et al., 2013). Therefore, for the Islamic banking system, the accountability of any Shariah related matter is placed with the Shariah Board (BNM, 2010).

Shariah boards can set up a clear risk-related role. According to Henry (2014), the board must obviously define its role in risk supervision even without the risk committee. Thus, Shariah board must be aware of the issues regarding Shariah non-compliance risk of Islamic financial institution's operation and its possible effect.

Rahman et al. (2013) study the relationship and influence of board involvement towards risk management practices of Islamic banks in Malaysia and Egypt. The study reveals that board's involvement in risk management has a positive relationship with risk management practices. In addition, it significantly influences the level of risk management practices. Therefore, management will be motivated to execute better Shariah risk management if the board symbolizes an Islamic leadership model which can cause positive influence to the management.

The conceptual definition of Shariah board involvement on Shariah risk management is the function of the Shariah board on Shariah control process within the organization (Hasan, 2011). Overall, the role of the board in any strategic decision is important in any banking system. Therefore, Shariah board involvement in the Shariah control process is crucial in leading a better implementation of Shariah risk management practices (Hasan, 2011).

2.2.4 Knowledge

The Islamic banking industry has emerged as one of the fastest growing sectors in many Islamic countries. In Malaysia, it is still in its infant stage compared to that of conventional banking. There are still some innovations of its product to comply with the principle of Shariah. Managers and academicians have recognized knowledge as a key source of competitive advantage (Grant, 1997) and a key form of organizational innovation (De-Alwis & Hartmann, 2008). Thus, knowledge on Shariah is important for the organization's assurance on compliance with the Shariah principle of its product, services, instruments, operation and activities. According to Ziauddin and Qadri (n.d), knowledge is the means of awareness of the permissible (halal) and impermissible (haram). This is because we are not only accountable to the industry, but we are mostly accountable to Allah (S.W.T). As Prophet Muhammad (sallallahu alaihi wa-sallam) said,

"Knowledge ensures our acts as lawful for us. It provides the basis of worship." [Abu Dawood and At-Tirmidhee # 2590, Sahih]

This hadith clearly implies that a person will know what is right (halal) and wrong (haram) if he or she has knowledge. Similar to Islamic banks, a banker can only conclude the Islamic financial contract, identify and mitigate risk if he or she has knowledge. Islamic bank can only be Islamic if its operation is in accordance with the Shariah. Therefore, only those who have knowledge can understand the Shariah matters and identify which is lawful (halal) and unlawful (haram) as stated in the Quran in Surah 29 (Surat Al-'Ankabūt), verse 43:

"And such are the Parables we set for mankind but none will understand them except those who have Knowledge." (Al-Quran, Translated by Yusuf Ali, 2014)

As mentioned above, failure to comply with the Islamic principles has a bad impact on the credibility of the industry. Therefore, knowledge on Shariah aspects is crucial as it contributed to the growth of Islamic banking and strengthens the reputation of the industry as a whole. According to Ginena (2014), if the knowledge on Shariah aspect and Shariah coordination has not been preserved or maintained by the employees, it may result in Shariah risk (Ginena, 2014).

According to Massingham (2010), knowledge is necessary to comprehend and manage the risk. It is taking the information contained from various sources and putting it together to be able to do something (Ward, 2014). Knowledge shifts individuals along the spectrum of uncertainty towards certainty; making risk as a means to gain knowledge rather than an entirely random event (Apgar, 2006).

A study from Eraut and Hirsch (2007) emphasize that knowledge contributes to the ability of the bankers to manage the risk. According to De Zoysa and Russell (2003), knowledge can assist the organization in risk identification and risk response. Similarly, May (2012) and Eick (2003) say that knowledge is what makes risk management practices effective.

The conceptual definition of knowledge is an understanding of what is lawful and unlawful in any Islamic finance transaction. The overall Shariah risk is very hazardous to the industry. Therefore, if the employee has sufficient knowledge on Shariah aspects, knows what is lawful (halal) and unlawful (haram), it would avoid, if not lessen, the possibility of facing this risk.

2.2.5 Expertise

In every organization, expertise is valuable to achieve organizational objectives as well as in managing risk (KPMG, 2009). The term expertise is defined as analytical awareness that allows a person to achieve several sets of tasks successfully and efficiently (Gibbins & Jamal, 1993; Davis & Solomon, 1987). Thus, it is important and needed for effective risk management practices (May, 2012; KPMG, 2009; Eick, 2003). An organization's achievement is, in huge division, determined by how carefully and efficiently the institution handles the risks it faces (Nicole, 2013).

Based on BNM (2010) Shariah governance framework, for the management to be successful, providing sufficient resources and expert staff workforce is crucial to hold up to each task concerned in the execution of Shariah governance. Hence, due to Shariah risk's technicality and complexity, the function shall be performed by officers that have suitable qualifications and/or experience in the subject matter (BNM, 2010).

Therefore, Islamic bank's staff, particularly Shariah officer must have skills or expertise in both banking operations and Shariah principles to mitigate the occurrence of Shariah risk and to have an effective Shariah risk management practice. In addition, expertise provides the institutions means to assess risks and formulates a suitable strategy to mitigate risk. In fact, there is an important enhancement of the managerial resources of the risk team through the hiring of experienced and expert risk manager from the finance and banking industry (Olam, 2010).

Overall, expertise is important for an effective Shariah risk management. The conceptual definition of expertise is the ability of a person to perform tasks efficiently and effectively in managing risk (Nicole, 2013; Gibbins & Jamal, 1993; Davis & Solomon, 1987)

CHAPTER THREE

Methodology

3.1 Introduction

In this chapter, the researcher discusses the research methodology adopted for this study. It begins with the research framework together with hypothesis generated from the literature review in the previous chapter. It will then present the method used to test the variables in the research framework and its hypothesis. This chapter mainly clarifies the research design, operational definition of variables, population and sample of research and the sampling method implemented, data collection technique, measurement development and questionnaire administration, measurements of research variables as well as elaborates in detail the data analysis procedures.

3.2 Research Framework

A theoretical framework is a compilation of interconnected concepts which guide the study, determining what things will be tested and what the association will be sought in the data (Sekaran & Bougie, 2013). Furthermore, according to Sekaran and Bougie (2013), the theoretical framework is a demonstration of reality and explains in detail those variables or factors in the actual world the researchers think to be related to the problem examines and demonstrates the significant association among them. In this study, the theoretical framework is needed in order to know the relationship of one variable to another variable.

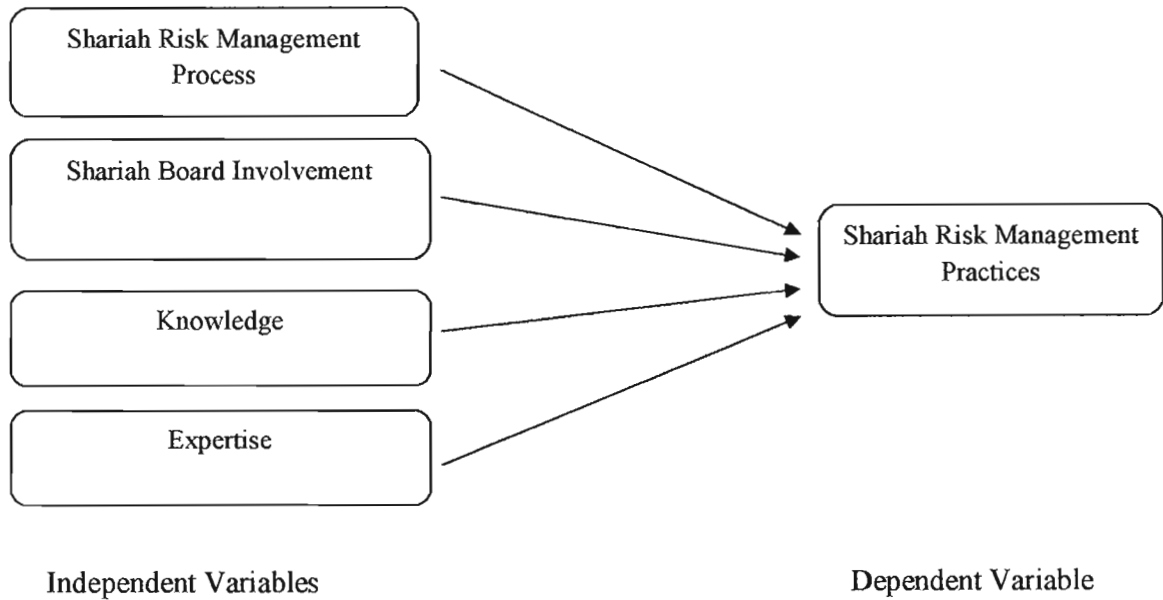
The research framework model by Al-Tamimi and Al-Mazrooei (2007), Hassan (2009), Abu Husain and Al-Ajmi (2012), Khalid and Amjad (2012), Rahman et al. (2013) that shows the relationship between risk management process and risk management practices is used in this study. However, Rahman et al. (2013) test on the impact of board involvement was also been adopted.

This study extended their methodology by adding two independent variables. Hence, their framework model is suitable to predict the practices of Shariah risk management of Islamic banks in Malaysia, since risk management practices in general are similar. However Shariah risk management is focused only on managing Shariah risk.

The proposed theoretical framework shows the direction of the independent variables towards the Shariah risk management practices. The importance of establishing the framework of this study is the ability to identify the significant influence of Shariah risk management process, Shariah board involvement, knowledge and expertise towards Shariah risk management practices.

Furthermore, it is to test the relationship between Shariah risk management process, Shariah board involvement, knowledge and expertise and Shariah risk management practices of Islamic banks in Malaysia. Figure 3.2 illustrates the relationship between the IV and DV.

Figure 3.1:
Proposed Theoretical Framework



3.3 Research Hypothesis

A hypothesis is a statement of the relationship between two or more variables. It is always in declarative sentence form, and it relate (either generally or specially) variable to a variable (Sekaran, 2003). It is a guide for the investigation into the entire process of research endeavor and it keeps the research on the main line of the study. It is importantly seen as the beacon that lights the path for the research work. In view of the above literature review and research questions, the following research hypotheses will suffice for this research work:

H1. There is a significant relationship between Shariah risk management process and Shariah risk management practices.

H2. There is a significant relationship between Shariah board involvement and Shariah risk management practices.

H3. There is a significant relationship between knowledge and Shariah risk management practices.

H4. There is a significant relationship between expertise and Shariah risk management practices.

3.4 Research Design

Understanding and applying the suitable research methods are important to all researchers. There are generally two approaches in conducting research, namely, quantitative and qualitative research approaches (Neil, 2009; Sekaran, 2003). Neil (2009) describes research design as the overall arrangement and methods applied in conducting the test to prove the hypothesis according to the standards maintained for data collection and analysis.

Qualitative research is a research design used by the researchers to have an in depth understanding of the events without using numerical measurements (Zikmund, Babin, Carr, & Griffin, 2010). This approach is generally used by researches applying oral interviews to gather information on the respondent's views and feelings regarding the situations (Sekaran & Bougie, 2013; Zikmund et al., 2010).

Quantitative research on the other hand, is a research done based on data that is descriptive in nature and not qualified (Sekaran & Bougie, 2013). This research method looks more at establishing generalizable relationship between dependent variable and independent variable in a given population (Zikmund et al., 2010). Zikmund et al. (2010) further explains that both the approaches are equally important, and the choice is made based on the nature of the research.

Therefore, the quantitative approach is appropriate to use in this study in order to test the hypothesis that there is a significant relationship exist between Shariah risk management processes, Shariah board involvement, knowledge and expertise towards Shariah risk management practices of Islamic banks in Malaysia.

Quantitative approach is divided into descriptive or experimental. In this study, the researcher opted to use descriptive research. To apply this approach, the characteristic of the respondents were measured in order to establish a relationship between independent and dependent variable (Sekaran & Bougie, 2013). The independent variables are those variables that influence the dependent variable (Sekaran & Bougie, 2013) and are under the control of the researcher's needs and manipulation. Normally what the researchers think will affect or influence the dependent variable.

The independent variables in this study are Shariah risk management process, Shariah board involvement, knowledge, and expertise. They will be tested and analyzed in order to examine their relationship and influence on Shariah risk management practices.

3.5 Population and Sample

Population refers to the total number of people, events or things that the researcher wants to examine that share a common characteristic required by the researcher (Sekaran & Bougie, 2013). The population of this study is comprised of Shariah department of five (5) Islamic banks in Malaysia mainly; Maybank Islamic which has about twenty three (23) employees, OCBC-Al Amin Berhad has eleven (11) employees in their Shariah department, Bank Islam Malaysia Berhad which has about

twelve (12) employees, CIMB Islamic Shariah department has a total of twenty one (21) employees (CIMB, Head Shariah) and finally Amlslamic which has about twelve (12) employees in their Shariah department (Amlslamic, Head Shariah). These five Islamic banks were chosen as representative of industry practices as they have the largest assets based on their annual financial report for the year ended 2012. The researcher used the 2012 annual report as the year end 2013 report for some Islamic banks is not available online.

The sample is a subset of the population, which is studied in order for the research to be generalized to the overall population of study (Sekaran & Bougie, 2013; Zikmund et al., 2010). Since it is not absolutely realistic to gather the data from the entire population, hence it is important to determine the size of the sample (Zikmund et al., 2010). In order to decide the actual sample size of this type of study, Roscoe (1975) suggested that generally a sample size that is above 30 and smaller than 500 are sufficient to conduct a research. For a population of (79), the minimum sample size of 66 is appropriate for this research as determined by Krejcie and Morgan (1970). Based on the above statements and in order to ensure the minimum number of responses is satisfied, the researcher decides to use 79 as the sample size of this study.

3.6 Sampling Method

According to Sekaran and Bougie (2013) sampling is an important characteristic of every research that entails in-depth examination. The function of sampling in business research is to estimate unidentified characteristics of the population (Sekaran & Bougie, 2013; Zikmund et al., 2010).

There are various sampling techniques used in the academic research field. Basically,

they can be categorized into two, namely, probability and non-probability sampling (Sekaran & Bougie, 2013; Zikmund et al., 2010). The sampling techniques are cluster sampling, systematic sampling, stratified sampling, and simple random sampling. Simple random sampling design is when every element in the population has a known and equal chance of being selected as a subject (Sekaran, 2003).

When the population of study is large, systematic sampling is suitable to be administered. Stratified sampling entails the need to divide the entire population into subgroups otherwise known as “strata” applicable to the research study (Sekaran, 2003), whereas cluster sampling involves selecting the group instead of the individual and generally use when the population is widely spread.

The population of this study is the Shariah department of the aforementioned Islamic banks that is relevant for this study. The researcher used simple random sampling in which every element in this department has an equal chance of being the respondents. Since each Shariah department has a different number of populations, the questionnaires were disproportionately divided among the staff of each Shariah department serving in the respective banks. Table 3.1 provides the summary of population and sample.

Table 3.1
Summary of Population and Sample

Islamic Banks	Disproportionate sampling		Disproportionate sampling	
	Population	%	Sample Size	%
Maybank Islamic	23	29	19	29
OCBC Al-Amin Berhad	11	14	9	14
AmIslamic	12	15	10	15
CIMB Islamic	21	27	18	27
Bank Islam Malaysia Berhad	12	15	10	15
Total	79	100	66	100

3.7 Research Instrument

In this research, questionnaires become the main instrument in order to achieve the objectives of this study. To collect the needed data, questionnaires were distributed to the staff in the Shariah department of each Islamic bank identified. The data collection process was conducted from 25-27 of June 2014 and 15-17 of September 2014. The researcher visited the five (5) Islamic banks' head quarters located in Kuala Lumpur in order to distribute and collect the questionnaires. The researcher was given some help from the head of Shariah department of some bank and friends working for those banks identified to complete the data collection process.

3.8 Pilot Test

The researcher needs to administer the instruments to a small group of target audience that have the same characteristics of the actual sample to carry out the pilot test, (Sekaran, 2003). The objective of conducting pilot test is to ensure that the questionnaire meets the goals of the research and can be understandable by the respondents. In case the questionnaire fails to meet these goals, the researcher can adjust and amend the questions after the pilot study (Lucky, 2011; McIntire & Miller, 2007) and remove the unsatisfactory item from the instrument in collecting data (Sekaran, 2003). Lucky (2011) also asserts that pilot study determines the reliability and validity of an instrument. For example a researcher will be able to detect those questions that may not fit for the study or those that is beyond the understanding of the respondents.

For pilot study, fifty (50) questionnaires were first set for the pilot study. The questionnaires were distributed to some Islamic banks located in Kedah namely; (i)

Hong Leong Islamic, (ii) Bank Islam Malaysia Berhad, (iii) Alliance Islamic and (iv) Bank Muamalat and also to the students of Master in Islamic finance and banking in UUM. The respondents have been asked to answer the questions and provide their comments in order to test the validity and clarity of the questionnaire. After collecting the questionnaires, it is then tested using reliability analysis and factor analysis for validation to detect and remove those questions which are not fit or valid and reliable for the actual study (see Appendix C).

3.9 Factor Analysis

Factor analysis is a supportive instrument used in order to investigate the underlying patterns and relationships among a number of variables and to find out if the variables can be reduced into a smaller set or factors (Hair et al., 2010). Factor analysis was used to recognize those items that do not belong to the specified field. Therefore the main idea behind using this technique is data reduction (Hair et al., 2010). Two main techniques are used in analyzing factors: the confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). According to Nunnally and Bernstein (1994), the aim of CFA is to validate some prior hypothesized structure among items or variables, while EFA aims to identify the underlying structure. This study uses EFA technique to achieve the needed analysis. According to Hair et al., (2010), some assumptions have to be considered for factor analysis. Those assumptions are the following:

1. The test of Kaiser-Meyer Olkin (KMO) values of more than 0.5 is acceptable.
2. The Batlerr's test of sphericity should be significant and at least at 0.5.
3. The acceptable level of the anti-image correlation of items is above 0.5.
4. A measuring of sample adequacy must be greater than 0.5.
5. The lowest requirements for factor loading range between 0.30 and 0.40 meet

the minimum level and loadings of 0.50 or greater are considered practically significant.

The following are the goals behind using factor analysis:

- a) It is used to investigate the scale items of each construct and verify their discriminant validity. Malhotra and Stanton (2004) stated that discriminant validity aimed to recognize new uncorrelated variables that will be used in subsequent multivariate analysis, for instance, regression.
- b) It is used to reduce a large set of variables or items down to a smaller number to ensure the construct validity.
- c) It aims to clarify the interconnections between construct and variables.
- d) It is used to identify a smaller set of salient factor to be used in upcoming multivariate analysis (Malhotra & Stanton, 2004).
- e) This technique is used to meet the statistical assumption of various models (Zikmund et al., 2010).

3.10 Reliability Analysis

Sekaran and Bougie (2013) define reliability as representing the internal consistency demonstrating the homogeneity of an item measuring the variables. The reliability analysis procedure provides information about the relationship between individual items in the scale and their internal consistency and examines the properties of a measurement scale and the questions that make it (Pallant, 2013; Sekaran & Bougie, 2013). The reliability analysis of the factors was tested using Cronbach's Alpha in order to test the internal consistency reliability of the scales. For the purposes of the research, any Alpha value that is 0.6 or less generally indicates unsatisfactory internal consistency reliability, those exceeding 0.7, indicate acceptable reliability, and those

over 0.8 are considered good (Sekaran, 2003). Thus, the higher the Alpha value or the closer reliability coefficient is to 1.0, the higher reliability of the measurement items will be (Sekaran & Bougie, 2013).

3.11 Operationalization of Variables

Most of the items used in the questionnaire were operationalized by the variables like the dependent variable (Shariah risk management practices) and three independent variables (Shariah risk management process, Shariah board involvement, knowledge) are adopted and were modified from prior studies. Most of the items on expertise on the other hand were developed by the researcher based on its definitions and literature.

After the compilation of questions, the researcher has discussed the construct items with the supervisor and expert who are familiar with the topic to review and examine the questionnaire for appropriateness and completeness. The present framework consists of variables is consists of the following:

3.11.1 Dependent Variable

3.11.1.1 Shariah Risk Management Practices

Shariah risk management practices indicate the function to systematically understand, identify, assess, analyze, monitor, and control Shariah non-compliance risk to mitigate any possible non-compliance events (BNM, 2010). Many studies have investigated the risk management practices of both conventional and Islamic banks e.g. Al-Tamimi and Al-Mazrooei (2007), Hassan (2009), Abu Hussain and Al-Ajmi (2012), Khalid and Amjad (2012), and Rahman et al. (2013).

For this study, the researcher's measurement for Shariah risk management practices was adopted and modified from the study by Abu Husain and Al-Ajmi (2012) study in the context of Shariah risk management practices. The previous study used a seven-point Likert scale. However, for this study, the researcher used a five-point Likert scale instead ranging from (1) "strongly disagree" to (5) "strongly agree".

According to Sekaran and Bougie (2013), five-point Likert scale is just as good as any kind of scale and easy to respond. Table 3.2 shows the following items that have been adopted and modified to suit for Shariah risk management practices.

Table 3.2
Items for Shariah Risk Management Practices

Q No.	Items	References
1	The bank has promoted Islamic ethics and values within organizations	Hasan (2011)
2	The bank provides input to management regarding Shariah issues	Abu Hussain and Al-Ajmi (2012)
3	The bank issues clear and detail fatwa on Shariah	
4	The bank's policy encourages training programs in the area of Shariah risk management	Abu Hussain and Al-Ajmi (2012)
5	Shariah risk management procedures and processes are documented and provides guidance to staff about Shariah aspects	Abu Hussain and Al-Ajmi (2012)
6	The bank emphasizes the recruitment of highly qualified people who have proper knowledge on Islamic finance, and expertise in both Shariah and banking operation	
7	The level of Shariah risk management in the bank is excellent	Abu Hussain and Al-Ajmi (2012)

3.11.2 Independent Variables

3.11.2.1 Shariah Risk Management Process

A number of studies focusing on the risk management process have observed a significant link between risk management process and risk management practices (Abu Hussain & Al-Ajmi, 2012; Al-Tamimi & Al-Mazrooei, 2007; Hassan, 2009; Khalid & Amjad, 2012; Rahman et al., 2013). The Shariah risk management process is a process of understanding risk and risk management, identification, assessment, analysis, and monitoring risk (BNM, 2010).

The measurement of the Shariah risk management process was adopted and modified from the study of Abu Hussain and Al-Ajmi (2012) that used a seven-point Likert scale with the assigned value of (1) “strongly disagree” to (7) “strongly agree”. However, for consistency, the present study used a five-point ranged instead. Items were adopted from previous study as shown in the following table.

Table 3.3
Items for Shariah Risk Management Process

Q No.	Items	References
1	There is a common understanding of Shariah risk management across the bank	Abu Hussain and Al-Ajmi (2012)
2	My bank carries out a comprehensive and systematic identification of Shariah risk	Abu Hussain and Al-Ajmi (2012)
3	The bank periodically assess the possibility of Shariah risk event	Abu Hussain and Al-Ajmi (2012)
4	My bank approach in analyzing Shariah risk includes assessment of the cost and benefit of addressing the risk	Abu Hussain and Al-Ajmi (2012)
5	Monitoring the effectiveness of Shariah risk management is one of the integral part of routine management reporting	Abu Hussain and Al-Ajmi (2012)
6	Reporting and communication processes within my bank increase Shariah risk management effectiveness	

3.11.2.2 Shariah Board Involvement

The relationship of board involvement and risk management practices has been documented in the previous study of Rahman et al. (2013) while Hasan (2011) surveys the Shariah governance practices in Malaysia, GCC countries, and UK. Shariah board involvement is the function of the Shariah board in identifying Shariah non-compliance risk and contributing to Islamic ethics and values as well as the Shariah control process (Hasan, 2011).

The measurement for Shariah board involvement was adopted and modified from Hasan (2011) using a five-point Likert scale by assigning a value of (1) “strongly disagree” to (7) “strongly agree”. However, for consistency, the present study used the five-point range. The items of this measurement are shown in the Table 3.4.

Table 3.4
Items for Shariah Board Involvement

Q No.	Items	References
1	The Shariah board communicates effectively across the organization	Hasan (2011)
2	The Shariah board is directly involved in managing Shariah risk	Hasan (2011)
3	The Shariah board has properly identified and evaluated the organization’s exposure to Shariah risk	Hasan (2011)
4	The Shariah board promotes continuous improvement of the organization Shariah control process	Hasan (2011)

3.11.2.3 Knowledge

The measurement of knowledge was adopted and modified from Osman and Ali (2008) and Khan and Asghar (2012). For consistency, the researcher used a five-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”. Qadri (2008) asserts that knowledge is the means of awareness of the permissible (halal) and impermissible (haram). The items of this measurement are shown in Table 3.5

Table 3.5
Items for Knowledge

Q No.	Items	References
1	The bank employees know and understand the difference between Islamic and conventional bank.	Osman & Ali (2008)
2	The bank employees know the concept applied to Islamic banking system	Osman & Ali (2008)
3	My bank officer know the Shariah principle applied to Islamic banking	Khan & Asghar (2012)
4	Knowledge on Shariah is important for the bank's employees	Khan & Asghar (2012)
5	The bank employees know what is Shariah compliant and non Shariah compliant	Khan & Asghar (2012)

3.11.2.4 Expertise

Expertise is operationalized as problem-solving awareness that allows a person to achieve several sets of tasks successfully and efficiently (Davis & Solomon 1987; Gibbins & Jamal 1993). In this context, this study tries to investigate the relationship between expertise and Shariah risk management practices.

The measurement for expertise is developed by the researcher and adopted from Zainol et al. (2008). The researcher is using a five-point Likert scale by assigning a value of (1) “strongly disagree” to (5) “strongly agree” for consistency. The items of this measurement are shown in Table 3.6.

Table 3.6
Items for Expertise

Q No.	Items	References
1	The bank employees have better in-house skills and expertise	-
2	The bank employees have better communication between risk function and the business	-
3	The bank employees have high level of expertise in managing Shariah risk	-
4	The bank employees accurately and concisely explain and present Shariah risk reports, policies, limits and results	-
5	The bank employees have expertise of Islamic products and services.	Zainol, Shaari & Ali (2008)

3.11.3 Demographic Profile

The respondents are asked to fill in the details on the following demographic profile that stated below. For more information, please see Appendix A.

1. Gender
2. Length of service
3. Position
4. Level of Education

3.12 Data Analysis Techniques

The theoretical framework and its hypothesis were tested using SPSS statistical software package (version 20). There are many techniques employed in the analysis, namely, screening the data before data analysis and selecting the appropriate data analysis (Sekaran, 2003). Data screening was performed to identify data entry errors and to examine how appropriately the data meets the statistical assumptions which involves missing data, treating outliers, descriptive statistics of variables, normality,

linearity, homoscedasticity, independence of error, and multicollinearity.

3.12.1 Data Screening

Data screening was carried out to ensure that the results of the analysis are valid to interpret (Meyers, Gamst, & Guarino, 2012). Data screening process contains a number of steps in order to ensure that the characteristic of data may not negatively influence the results.

3.12.1.1 Missing Data

Missing data is an essential step before testing the collected data. It is considered a vital part before data analysis since data is often riddled with mistakes and data entry errors which completely affect the analysis results (Hair, Anderson, Babin, & Black, 2010; Pallant, 2013). Prior to examining the research hypothesis, variables were tested for accuracy of missing values, data entry and satisfaction of the assumptions for multivariate analysis. Missing data refer to cases where valid values of one or more variables are mistakenly entered or are not available for data analysis (Hair et al., 2010).

In addition, lack of understanding of some questionnaire items, unwillingness to answer or an oversight of some items are issues that must be taken into consideration because of their negative impact on the results. In this research, the data have been collected using five-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”. The data were thoroughly checked to find whether the answers were within the range of 1 to 5.

3.12.1.2 Treatment of Outliers

Treatment of outliers is an essential step after treating missing data as it will affect the result of any data analysis (Sekaran & Bougie, 2013). There are many reason causing outliers including incorrect data entry. In this study, a few cases were detected and removed.

3.12.1.3 Normality

It is a statistical technique that shows the shape of the distribution of the sample. It is one of the initial steps and fundamental assumption for multivariate techniques such as multiple regressions. The aim of the normality test is to ensure that the data is normally distributed. There are two common techniques used to describe the distribution of a data set, namely, skewness and kurtosis. The closer the values of these components to zero, the more the data are normally distributed (Hair et al., 2010).

3.12.1.4 Linearity

Linearity, which refers to the linear relationship of variables, is a statistical technique that tests the extent of changes in independent variable is linked with the dependent variable. According to Hair et al. (2010), Meyers et al. (2012), and Pallant (2013), one of the ways of assessing the linearity is to run the regression and examine the residual value (scatterplots). By looking at the residual plots from the SPSS result, it indicates linearity when the plots are close to the diagonal line (Pallant, 2013).

3.12.1.5 Multicollinearity

Multicollinearity indicates the situation in which the independent variables are extremely correlated to one another (Sekaran & Bougie, 2013). According to Sekaran and Bougie (2013), correlation values of any study must be under the threshold of 0.70 while any correlation values that is higher than 0.70 indicates the presence of multicollinearity.

There are two measures for examining multicollinearity namely, (i) tolerance (R) value and (ii) variance inflation factor (VIF) value where the recommended value of tolerance is 0.10 and for VIF are 10 (Sekaran & Bougie, 2013; Hair et al., 2010).

3.13 Descriptive Statistic Analysis

The descriptive statistics option in SPSS, namely, frequency and standard deviation were used to understand the profile of the respondents. This technique presents a description of the overall responses obtained.

3.14 Correlation Analysis

Correlation analysis was used to determine the strength of the linear relationship direction between the variables, which can either be positive or negative (Pallant, 2013). In this study, the relationship between Shariah risk management process, Shariah board involvement, knowledge, and expertise, and Shariah risk management practices of Islamic banks in Malaysia is examined using this analysis. A positive correlation refers to a simultaneous increase in two variables. This means that if a variable increases, the other variable will also increase. A negative correlation indicates that as one variable increases, the other decreases.

3.15 Multiple Regression Analysis

Multiple regression analysis is the study of how a dependent variable is related to two or more independent variables. Multiple regression analysis is used to measure the relationship between several independent variables and the dependent variable (Pallant, 2013). It was also used to analyze the data collected because it is appropriate when studying collective and separate contributions of two or more independent variables (Pallant, 2013).

In addition, it will also show how much of the variance in the dependent variable are being influenced by the independent variables through R square (R^2) that is obtained from the analysis.

3.16 Chapter Summary

This chapter discusses the research design which is based on the quantitative approach through the use of a structured questionnaire. In addition, disproportionate simple random sampling is used in this study. The chapter also dealt with the validity issues through the use of a pilot study. The population, sample size, and the survey procedures are discussed along with the minimum sample size requirements. In addition, the current chapter also dealt with the statistical techniques used in the study such as descriptive, correlation, and multiple regression analysis. Moreover, the analysis use SPSS Version 20.0 and the results of the analysis are explained in the next chapter, Chapter 4.

CHAPTER FOUR

Data Analysis and Findings

4.1 Introduction

This chapter discusses the finding or the results obtained from the analysis using statistical package for social science (SPSS version 20).

4.2 Goodness of Measures

In order to examine the goodness of measures, two procedures need to be accomplished before carrying the necessary analysis, namely, factor analysis and reliability analysis. The findings of factor and reliability analyses for all items tapped for the dependent and independent variables were included in this study.

4.2.1 Factor Analysis

Factor analysis is a set of statistical methods that are used to confirm or explore the underlying structure among a set of variables or items to identify which among them tap a factor or latent construct (Pallant 2013). According to Hair et al. (2010), the main purpose of factor analysis is to describe the underlying structure among variables in the analysis. This technique allows reducing a large set of variables or items down to a smaller, more meaningful and manageable number of factors (Pallant, 2013; Hair et al., 2010). Moreover, it is a preliminary step and it recognizes a set of factors or variables that are likely to be used in the final analysis. The exploratory factor analysis (EFA) was used in the data analysis stage as this study construct and adopted some items from different authors.

As mentioned earlier, some of the items used to measure the variable in this research were adopted from previous study and also has been developed by the researcher. The items that have been adopted from previous researchers have to be tested for validity. Therefore, it is important to test the validity of all the construct items.

EFA has been conducted on individual variables and group of variables. The first component is the dependent variable which is the Shariah risk management practices with seven (7) items. The second component is two independent variables (Shariah risk management process and Shariah board involvement) which were adopted from previous studies and some developed by the researcher and have ten (10) items. The third component is the independent variables, knowledge and expertise with ten (10) items. For more details, please refer to Appendix D.

4.2.1.1 Factor and Reliability Analysis of Shariah Risk Management Practices

EFA has been conducted on Shariah risk management practices (dependent variable) as shown in Table 4.1. The table shows the factor loading of six Shariah risk management practices items after removing one item, thus, six out of seven survived in the EFA procedure in which all are greater than 0.5. In addition, the relative explanatory power (Eigen-value) for the dimension is 3.296 exceeding the recommended value of one and contributing 54.93% of the variance.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicated a practical level of .737 within the acceptable level. The variable shows a Cronbach alpha reading of .835 which is an indication of high reliability of this variable. Appendices

D and E show more detail about the findings of factor analysis and Cronbach alpha of all variables.

Table 4.1
Summary of Factor and Reliability Analysis of SRM Practices

Name	Items	Factor loading	Eigen-value	% Variance	Cronbach's alpha
DV	The bank has promoted Islamic ethics and values within organizations	.733	3.296	54.933	.835
	The bank provides input to management regarding Shariah issues.	.736			
	The bank issues clear and detail fatwa on Shariah	.683			
	Shariah risk management procedures and processes are documented and provides guidance to staff about Shariah aspects	.619			
	The bank emphasizes the recruitment of highly qualified people who have proper knowledge on Islamic finance, and expertise in both Shariah and banking operation	.859			
	The level of Shariah risk management in the bank is excellent	.794			

Barlett's test of sphericity ($p=0.000$) was significant

4.2.1.2 Factor and Reliability Analysis of SRM Process and SB Involvement

Two constructs comprise of several items were adopted from previous study. The factors are (i) Shariah risk management process and (ii) Shariah board involvement. There were 10 items in the questionnaire which are used to determine the influence of those factors on Shariah risk management practices of Islamic banks in Malaysia. Six items in Shariah risk management process and four items on Shariah board involvement. Factor analysis was employed to understand the structure of 10 items as a whole set (see Appendix D). The result of EFA on the two variables is presented in

Table 4.2. It shows factor loadings of the items of the two variables after removing the two items which did not survive on EFA leaving only eight items. The findings of this technique show that the loading of the remaining items ranges from .664 to .846. The relative explanatory power (Eigen-value) for each dimension is 2.893 and 2.418 respectively. The two dimensions cumulatively captured 66.384 percent of the variance. Cronbach alpha reading of .845 and .779 respectively, which is an indication of the high reliability of both variables.

Table 4.2
Summary of Factor and Reliability Analysis SRM Process and SBI

Name	Items	Factor loading	Eigen-value	% Variance	Cronbach's alpha
SRM Process	There is a common understanding of Shariah risk management across the bank	.664	2.893	36.162	.845
	The bank periodically assess the possibility of Shariah risk event	.710			
	My bank approach in analyzing Shariah risk includes assessment of the cost and benefit of addressing the risk	.846			
	Monitoring the effectiveness of Shariah risk management is one of the integral part of routine management reporting	.786			
	Reporting and communication processes within my bank increase Shariah risk management effectiveness	.678			
SB involvement	The Shariah board is directly involved in managing Shariah risk	.816	2.418	30.222	.779
	The Shariah board has properly identified and evaluated the organization's exposure to Shariah risk	.791			
	The Shariah board promotes continuous improvement of the organization Shariah control process	.787			

Barlett's test of sphericity (p=0.000) was significant

The value of KMO which was .793 implies that the sampling adequacy for factor analysis was appropriate. Barlett's test of sphericity significantly supported the factorability of the correlation matrix. All the variables obtained a reliable Cronbach's alpha, which shows that the constructs have acceptable internal consistency. All related outputs are attached in Appendices D and E.

4.2.1.3 Factor and Reliability Analysis of Knowledge and Expertise

Two dimensions containing 10 items in this study were adopted and developed by the researcher to measure (i) knowledge and (ii) expertise. Five items were used for knowledge and five items also were used for expertise. The variable knowledge has five items of which four items remained for final analysis while for the variable expertise all the items survived the EFA procedure for final analysis.

The results of the factor analysis technique are presented in Table 4.3. The table shows factor loading of the variables after deleting the items that double loading. The loading of the remaining items ranged from .681 to .898. The relative explanatory power (Eigen-value) for each dimension is 3.606 and 2.845 respectively. The two dimensions cumulatively earned 71.684 percent of the variance.

The KMO index is .791 and Barlett's test of sphericity is significant which supports the factorability of the correlation matrix and suggests that the assumption of the factor analysis were met. The Cronbach alpha reading .836 and .851 respectively indicate the acceptable level of reliability as well as acceptable internal consistency.

Table 4.3
Summary of Factor and Reliability Analysis of Knowledge and Expertise

Name	Items	Factor loading	Eigen-value	% Variance	Cronbach's alpha
Knowledge	The bank employees know and understand the difference between Islamic and conventional bank.	.777	3.606	40.070	.836
	The bank employees know the concept applied to Islamic banking system	.898			
	My bank officer know the Shariah principle applied to Islamic banking	.713			
	The bank employees know what is Shariah compliant and non Shariah compliant	.750			
Expertise	The bank employees have better in-house skills and expertise	.872	2.845	31.614	.851
	The bank employees have better communication between risk function and the business	.835			
	The bank employees have high level of expertise in managing Shariah risk	.681			
	The bank employees accurately and concisely explain and present Shariah risk reports, policies, limits and results	.830			
	The bank employees have expertise of Islamic products and services.	.805			

Barlett's test of sphericity ($p=0.000$) was significant

Table 4.4 shows all the dimensions before and after removing items during the process of factor analysis as well as the items that were deleted after the factor analysis procedure.

Table 4.4
Summary for all the Dimensions Before and After the EFA

Dimensions	No. of items Before	Items deleted	No. of items after
Shariah risk management practices	7	1	6
Shariah risk management process	6	1	5
Shariah board involvement	4	1	3
Knowledge	5	1	4
Expertise	5	0	5

4.3 Validity Assessment of the Measures

The validity of the measures means to what extent the items in scale measures the theoretical construct. In other words, it indicates accuracy in measurement and is involved in determining the appropriateness of the questions and how strong the items relate to the construct variables to be measured (Bougie, 2013 & Hair et al., 2010). Construct validity consists of several approaches such as content validity, substantive validity, uni-dimensionality, reliability, convergent validity, and discriminant validity (Hair et al., 2010). All of these approaches should be satisfied towards accomplishing construct validity.

Despite the importance of content validity and substantive validity, they need no statistical tests. If the measurement scale does not obtain content and substantive validity, it would not gain construct validity whatever the result of statistical analysis indicates (Sekaran & Bougie, 2013).

4.3.1 Content and Substantive Validity

Content validity which is also known as face validity focuses on whether the scale items sufficiently cover the entire area of the construct being studied (Sekaran & Bougie, 2013). According to Sekaran and Bougie (2013), the correlation between the individual items and the concept is subjectively evaluated throughout the ratings of expert judges, or other means, with the purpose of guaranteeing that the range of scale items reached previous empirical issues to include theoretical and practical considerations. This is needed to prove that the empirical indicators are logically, as well as theoretically related to the construct (Hair et al., 2010).

On the other hand, substantive validity evaluates to what extents the items are theoretically related to its posited construct (Hinkin & Tracey, 1999) whereas content validity indicates the correspondence among the scale items and the latent variable. This means that a variable will have substantive validity if it obtained content validity.

In this research, the validity of the questionnaire is based on the review of the literature, where several journal articles in the related field were reviewed to obtain the suitable items for the questionnaire. In addition, four researchers and experts who are familiar with the topic area and working in Universiti Utara Malaysia have reviewed and examined the questionnaire for appropriateness and completeness of the construct items (see Appendix B). Their suggestions and comments were taken into consideration and incorporated into the final design of the questionnaire for conducting the pilot study. A pilot study was conducted by distributing fifty (50) questionnaires to Islamic banks located in Kedah and also to student of Master in Islamic finance and banking in Univesiti Utara Malaysia. They have been asked to answer the questions and give their comments in order to test the validity and clarity of the questionnaire and avoid confusion. After collecting the questionnaire were tested using reliability analysis and factor analysis for validation to detect those questions which are not fit for the study (see Appendix C).

4.3.2 Uni-dimensionality

Uni-dimensionality indicates a group of measurement items that belong to underlying construct or variable (Hair et al., 2010). It shows how strong the items are linked to a specific variable (factor loading). Thus, to demonstrate uni-dimensionality, it relies on the size of the factor loading results (Hair et al., 2010). Loading of 0.3 to 0.4 has been

proposed to be acceptable. However, majority of the studies has used loading equal to or greater than 0.5, and considered significant (Hair et al., 2010). As presented earlier in this chapter, all the items that remained for further analysis had gained factor loading of greater than 0.5. Consequently, the assumption of uni-dimensionality in the set of variables used in this study was satisfied.

4.3.3 Reliability Analysis

Reliability is defined as to what extent the measurement is free from error (Pallant, 2013; Sekaran & Bougie, 2013). The reliability analysis procedure provides information about the relationships among individual items in the scale and their internal consistency. There are many approaches for assessing the reliability such as test-retest, alternative forms and alpha coefficient also known as Cronbach's Alpha.

A value less than 0.6 are considered unsatisfactory internal consistency reliability, whereas a value exceeding 0.7 is acceptable reliability, and those over 0.8 are good. Thus, the higher the Alpha value or closer the reliability coefficient of 1.0 the higher the reliability of the measurement of items will be. In this study, all the findings resulting from reliability analysis range from .77 to .85. The variable demonstrate acceptable value as presented in Table 4.5 and the Alpha values are greater than 0.7. These findings indicate that all the variables demonstrate good reliability (see Appendix E).

Table 4.5
Results of Reliability Analysis and Variance Extracted for Study Variables

Variable	No. of items	Reliability Cronbachs' Alpha	Variance extracted
Shariah risk management practices	6	.835	54.933
Shariah risk management process	5	.845	36.162
Shariah board involvement	3	.779	30.222
Knowledge	4	.836	40.076
Expertise	5	.851	31.614

4.3.4 Convergent Validity

Convergent validity reflects the extent to which the scale linked positively with other measures of the same construct. It examines the convergence or similarity among the individual items that test the same construct. Many ways have been used to assess convergent validity among measurement items. These include variance extracted, construct reliability and factor loading. A high factor loading is an indication of having convergent validity.

The examination of the factor loading in this study shows that the items remaining for further analysis got a factor loading of above 0.5 (refer to Tables 4.1, 4.2, and 4.3). All of them are greater than what was recommended. On the other hand, the reliability analysis of all the items demonstrated values ranging from .77 to .85, while the result of the variance extracted is above the recommended value. All the findings of reliability coefficient, factor loading and variance extracted fulfilled the requirement for convergent validity.

4.3.5 Discriminant Validity

Discriminant validity test the level to which the measure should not be familiar with other measures (Hair et al., 2010). The logic beyond this examination approach is that the measure should clarify its items better than it explains the constructs.

4.4 Data Screening

4.4.1 Missing Data

A frequency test has been carried out for every variable to detect any missing responses. Based on the frequency test, no missing responses were found from the returned questionnaires. A review of the data set showed that there were complete responses in Part A (Demographic variable), Part B (factors associated with Shariah risk management practices) and Part C (Shariah risk management practices) of the questionnaires.

4.4.2 Outlier Detection

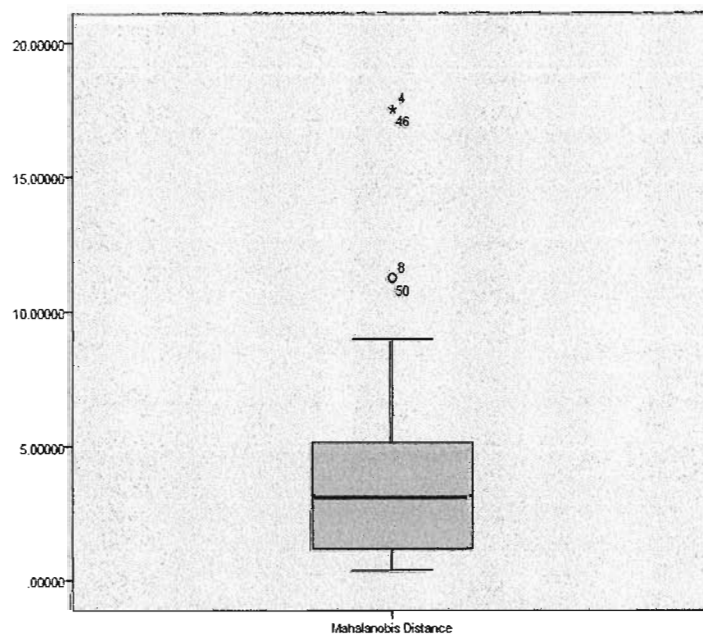
Outliers is another essential step after the missing data checking in the data screening process which have a high influence on the result of any statistical data analysis. The use of any multivariate technique calls for the identification and treatment of outliers in the responses (Hair et al., 2010). The mahalanobis distance to detect the outliers was examined through Boxplot as recommended by Pallant (2013) and Meyers et al. (2012).

According to Pallant (2013), IBM SPSS defines points as outliers first, if it appears as little circle with a number attached (ID number of the case) which means it extend 1.5 box length from the edge of the box. Second, extreme points indicated with an

asterisk, *) that extend more than three box-lengths from the edge of the box. The results show data sets or survey form number 4, 46, 8, and 50 are identified as outliers (see Appendix F). If points appear like this, the researcher has to decide what to do with them subjectively (Pallant, 2013).

The data set or questionnaire identify as an outlier have to be discarded because it is possible that these respondents might have misinterpreted the instructions that may lead to inaccurate findings (Bhatti, Hee, & Sundram, 2012). However, if the researcher feels that the data set is very important for the research, the researcher can keep them for analysis (Pallant, 2013; Hair et al., 2010). For this study, the researcher subjectively removes four data sets for accurate findings. Figure 4.1 shows the result of Mahalanobis distance in the boxplot.

Figure 4.1
Mahalanobis Distance



4.4.3 Response Rate

Seventy nine (79) questionnaires were distributed in five (5) Islamic banks in Kuala Lumpur, Malaysia. Seventy two (72) questionnaires were returned which indicates the response rate of 91.1%. After a thorough checking of the questionnaires that were returned, outliers have identified and removed. It shows that only sixty eight (68) were used for analysis. Hence, the useable response rate is 86.08%, which is considered acceptable. Table 4.6 shows the response rate and useable questionnaire for this research, which is relatively acceptable with that of Krejcie and Morgan (1970).

Table 4.6
Summary of the Total Questionnaires and the Response Rate

The sample size of the study	79
Returned questionnaire	72
Returned and usable questionnaire	68
Returned and unusable questionnaire	4
Non – returned questionnaire	7
Response rate	91.1 %
Usable response rate	86.08%

Table 4.7 shows the distribution of respondents according to Islamic banks in greater detail.

Table 4.7
Distribution of Respondents According to Islamic Banks

Islamic Banks	Sample Size	Non returned Questionnaires	Returned & Unusable	Usable questionnaires
Maybank Islamic	23	3	2	18
OCBC Al-Amin	11	0	0	11
CIMB Islamic	21	4	1	16
BIMB	12	0	0	12
AmIslamic	12	0	1	11
Total	79	7	4	68

4.4.4 Normality Test

Normality is the fundamental assumption for multivariate techniques such as multiple regressions, indicating the normal shape of the distribution of the data for an individual metric variable. Hair et al. (2010) said that normality as the benchmark for statistical approach. The difference in the normal distribution is supposed to be small. For the large variation, this will cause all statistical measurements resulting from the analysis to be invalidated (Hair et al., 2010).

There are many ways to test whether the data distribution deviates from the normal distribution. One of these is Normal Q-Q plot which is used to distinguish the normality of the data. Data that has achieved the normal distribution on a normal probability plot (see Appendix F) will align the plots in a straight line (Coakes & Steed, 2003). Skewness and kurtosis however, are the most popular ways used by many researchers for describing the shape of the data distribution.

Skewness is an indicator that shows to what extent the distribution of data leans from the center (symmetry) around the mean (Hair et al., 2010). According to Hair et al. (2010), values of skewness that are outside the range of +1 to -1 imply a substantially skewed distribution. In this study, the skewness values of all variables are within the +1 to -1 limit.

Kurtosis is a test of flatness or peakedness of the data distribution. Negative values for kurtosis refer to shape flatter than normal while the positive value for the kurtosis refers to the data distribution more peaked than normal (Hair et al., 2010). Similar to skewness measurements, kurtosis is considered within a normal range if it fall

anywhere between +1 to -1 (Fabrigar, Wegener, MacCallum, & Strahan, 1999; George & Mallery, 2006). Kurtosis has been examined and found that all variables are within the +1 to -1 limit. Table 4.8 illustrates the skewness and kurtosis of each variable.

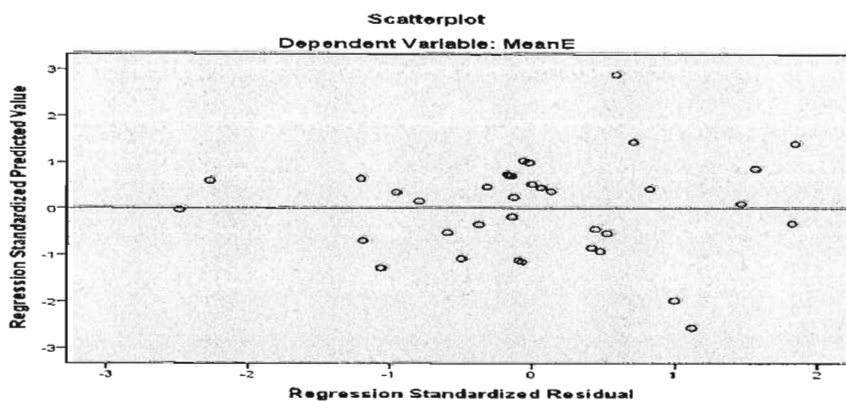
Table 4.8
Summary of Skewness and Kurtosis Value of the Variables

Variables	Skewness		Kurtosis	
	Statistics	Std. Error	Statistics	Std. Error
Shariah risk management process	-.568	.291	-.007	.574
Shariah board involvement	.370	.291	.983	.574
Knowledge	-.203	.291	.390	.574
Expertise	-.331	.291	.507	.574
Shariah risk management practices	.368	.291	.062	.574

4.4.5 Testing the Linearity, Homoscedasticity, and Independence of Errors

This study investigates the homoscedasticity, linearity, and independence of the errors by looking to the scatterplot of the residuals and predicted value (Pallant, 2013).

Figure 4.2
Scatterplot of the Residuals (Dependent Variable: Shariah Risk Management Practices)



The scatterplot in Figure 4.2 shows that there was no clear relationship between the residual and the predicted value. Following the suggestion of Hair et al. (2010), since the scatterplot showed no clear relationship between residuals and predicted values, it confirms the assumption of homoscedasticity, linearity, and independence of residuals.

4.4.6 Multicollinearity

Multicollinearity appears when any individual predictor variable is highly correlated with another group of predictor variables (Sekaran & Bougie, 2013). Based on the multiple regression analysis illustrated in Table 4.9, the results shows that the tolerance value range between .383 to .536, and the variance inflation factor (VIF) value is ranging from 1.865 to 2.612 (see Appendix I). It shows that the tolerance value is substantially greater than 0.10 and the VIF is less than 10. It can be concluded that there is no multicollinearity among the variables.

Table 4.9
Testing for Multicollinearity on Assessment of Tolerance and VIF Values

Variables	Tolerance	VIF
Shariah risk management process	.383	2.612
Shariah board involvement	.445	2.249
Knowledge	.536	1.865
Expertise	.532	1.878

4.5 Respondents Profile

This part of the study shows the demographic profile of the respondents involved in the current study. The respondents' profile includes, gender, length of service, position and level of education. Table 4.10 shows the details of the demographic profiles of the respondents, while the SPSS result are displayed in Appendix G.

Table 4.10
Demographic Profile of the Respondents

Profile	Frequency	Percentage
Gender		
Male	43	63.2
Female	25	36.8
Length of Service		
Less than 5 years	42	61.8
6-9 years	6	8.8
More than 10 years	20	29.4
Position		
Executive/Managerial	59	86.8
Middle management	6	8.8
Others	3	4.4
Level of Education		
Diploma	11	16.2
First Degree	37	54.4
Master	17	25.0
PhD	0	0
Other	3	4.4

The result shows that the majority of the respondents are males. From the total of 68 respondents, 43 (63.2%) are male, while the female respondents are 25 (36.8%). In terms of respondents length of service, less the 5 years represent 42 (61.8%) of the total number of respondents, the length of services of 6-9 years consist of 6 (8.6%) of the total percentage and finally the length of service of more than 10 years representing 20 (29.4%) of the overall percentage. With regards to positions, the questionnaire is answered primarily by bankers occupying an executive/managerial

level which represent 59 (86.8%) of the total bankers involved in the study, 6 (8.8%) of the total respondents are occupying middle management positions, while others is 3 (4.4%). With regards to the level of education, 37 (54.4%) of the total respondents hold a first degree, 17 (25%) hold a master's degree, 11 (16.2%) earned a diploma while the other 3 (4.4%) were SPM holder.

4.6 Descriptive Statistics

Descriptive statistics, such as mean and standard deviation were used as a way of clarification in identifying the situation of each of the construct variables (dependent and independent). The mean value of the variables was obtained by measures on a five point Likert scale in which the greater the number of the said five point Likert scale, the greater the goodness will be for each variable. Values closer to five are considered better, while values closer to zero are considered bad. A score equal or more than 4 shows a high agreement with particular criterion; a score equal or less than 2 were considered as low, and a mean score of 3 was considered as a moderate agreement (Bhatti et al., 2012; Hair, 2010). A descriptive analysis of all five variables is illustrated in Table 4.11 and the calculated values are as shown also in Appendix G.

Table 4.11
Descriptive Statistics for Variables

N	Component	Min	Max	Mean	Std. Deviation
68	Shariah risk management process	2.33	5.00	3.7353	.55332
68	Shariah board involvement	2.25	5.00	3.6654	.59005
68	Knowledge	2.80	5.00	3.8941	.45773
68	Expertise	2.40	5.00	3.6265	.47744
68	Shariah risk management practices	2.86	5.00	3.8277	.49767

Table 4.11 illustrates the mean, min, max, and standard deviation of the variables. For this study, the mean value is generally moderate in nature respectively. The mean score between expertise, Shariah Board involvement, Shariah risk management process, Shariah risk management practices and knowledge is ranging from 3.62 to 3.89. Those values reflect some moderate agreements on Shariah risk management practices.

The standard deviation is ranging from .45 to .59. The values implies that there is variability in answering the questionnaire among the respondents. In other words, the answers of the respondents are somehow different from one respondent to another.

4.7 Hypothesis Testing Procedure

The hypothesis testing procedure is divided into two essential parts. The first one is where the researcher examined the relationships among the variables being used in this study. The second one is a technique used to explore the predictive ability of a set of independent variables on one continuous dependent variable. The following subsections provide further explanation on the two techniques being used and their importance for this study.

4.7.1 Pearson Correlation

The Pearson correlation is a technique that is used to describe the strength of the relationship between two continuous variables. This gives an indication of the direction (whether it is positive or negative) as well as the strength of the relationship (Pallant, 2010). Simple bivariate correlation is also known as zero-order correlation and is the most common test of linear relationship and describes coefficients with a

range of possible values from +1 to -1. The value of zero implies that there is no correlation between the two variables at all, while a value closer to +1 or to -1 implies a better correlation. The perfect correlation is +1 or -1 which indicates that the value of one variable can be determined precisely by knowing the value of the other variable.

A significance of $p=.05$ is the generally accepted value to support the hypothesis. It means that 95 items out of 100, a researcher can be sure that there is a truly significant correlation between the two variables. On the other hand, there is only 5 percent chance that the relationship does not truly exist. Therefore, in this study, the researcher assessed the correlation between two variables to examine a hypothesis indicating a significant positive relationship.

4.7.2 Regression Analysis

Regression analysis is a flexible and powerful analysis for determining the associative relationship between a criterion/dependent variable and one or more independent variables. In other words, it is used to predict the dependency of one variable on the values of the other variable (Pallant, 2013; Sekaran & Bougie, 2013). There are two types of regressions which are simple and multiple regressions.

Simple regression is a test for deriving a mathematical relationship in the shape of an equation between a single dependent variable and single independent variable. This analysis is use to determine the simple correlation between two variables (Cavana, Delahaye, & Sekaran, 2001).

On the other hand, multiple regression is a procedure that includes one dependent variable with two or more independent variables (Pallant, 2013). In other words, the test is used to assess simultaneous impact of many independent variables on a dependent variable. This procedure helps the researcher to understand how much of the variance in the dependent variable is interpreted by a set of independent variables (Cavana et al., 2001).

4.8 Testing the Hypothesis on Factors Associated with SRM Practices

As mentioned in chapter one, the questions were:

Question 1 - What is the relationship between Shariah risk management processes and Shariah risk management practices?

Question 2 - What is the relationship between Shariah board involvement and Shariah risk management practices?

Question 3 - What is the relationship between knowledge and Shariah risk management practices?

Question 4 - What is the relationship between expertise and Shariah risk management practices?

Based on the research questions, the hypotheses for this study are the following:

H1. There is a significant relationship between Shariah risk management process and Shariah risk management practices.

H2. There is a significant relationship between Shariah board involvement and Shariah risk management practices.

H3. There is a significant relationship between knowledge and Shariah risk management practices.

H4. There is a significant relationship between expertise and Shariah risk management practices.

The construct variables were subject to both correlation and multiple regressions. The study used regression to identify the influence of the independent variables to the dependent variable. The linkages of the relationship of these variables are illustrated in Table 4. 12.

Table 4.12
Correlation among Variables Constructs

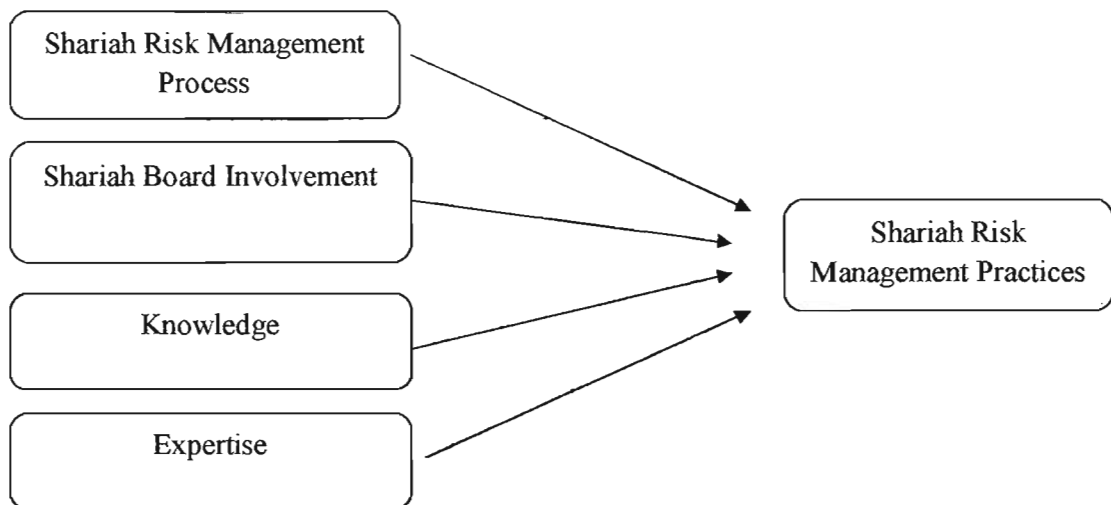
Variables	DV	IV1	IV2	IV3	IV4
DV- Shariah risk management practices	1				
IV1 – Shariah risk management process	.586**	1			
IV2 – Shariah board involvement	.547**	.683**	1		
IV3 – Knowledge	.413**	.634**	.411**	1	
IV4 – Expertise	.553**	.554**	.609**	.532**	1

** Correlation is significant at the 0.01 level (2-tailed)

According to the result of the correlation conducted on the four dimensions which are the determinants of the Shariah risk management practices, it is evident that the findings show that the four dimensions are positively correlated and expected a positive direction with the Shariah risk management practices at a confidence level of

99% ($p < 0.01$). The variable Shariah risk management process ($r = .586$, $p < 0.01$), Shariah board involvement ($r = .547$, $p < 0.01$), knowledge ($r = .413$, $p < 0.01$) and expertise ($r = .553$, $p < 0.01$). It was shown that the Shariah risk management process is the most highly correlated with the Shariah risk management practices followed in order by Shariah board involvement, expertise and finally knowledge. Please refer to Appendix H for correlation analysis output.

Figure 4.3
The Relationship between the Determinants and Shariah Risk Management Practices



The four determinants construct that are hypothesized as having a positive relationship between Shariah risk management practices.

The multiple regressions were carried out to determine the significant influence as well as the contribution of the independent variables such as Shariah risk management process, Shariah board involvement, knowledge and expertise in predicting Shariah risk management practices as dependent variable as shown in Figure 4.3. The findings of multiple regressions (see Appendix I) based on statistics assessment are illustrated in Table 4.13.

Table 4.13
Summary of Multiple Regressions

Variables	Unstandardized Coefficients		t	Sig.	R ²	F-value
	B	Std. Error				
(Constant)	1.220	.445	2.741	.008		
IV1- Shariah risk management process	.298	.138	2.153	.035	.429	11.834
IV2- Shariah board involvement	.130	.120	1.077	.285		
IV3- Knowledge	-.010	.141	-.073	.942		
IV4- Expertise	.292	.136	2.148	.036		

The four determinants explain 42.9% ($R^2 = .429$) of the variance in Shariah risk management practices. The unstandardized coefficient beta (β) for the Shariah risk management process is significant and positive, showing that there is a positive and significant relationship between Shariah risk management process and Shariah risk management practices ($\beta=.298$, $p<0.05$). This supports the research hypothesis one (H1) that states “There is a significant relationship between Shariah risk management process and Shariah risk management practices.”

Unstandardized coefficient beta (β) for Shariah board involvement ($\beta=.130$, $p>0.05$) and knowledge ($\beta=-.010$, $p>0.05$) are found to be insignificant since the significant value is above 0.05. Thus, this does not support the hypothesis two and three (H1 and H2).

Finally, the unstandardized coefficient beta (β) for expertise is statistically significant ($\beta=.292$, $p<0.05$) supporting the research hypothesis four (H4) that states “There is a significant relationship between expertise and Shariah risk management practices”. The result of hypothesis testing of determinants construct is summarized below on Table 4.14.

Table 4.14
Summary of Hypothesis Testing Result from Multiple Regression Analysis

No	Hypothesis testing	result
H1	There is a significant relationship between Shariah risk management process and Shariah risk management practices.	supported
H2	There is a significant relationship between Shariah risk management process and Shariah risk management practices.	Not supported
H3	There is a significant relationship between knowledge and Shariah risk management practices.	Not supported
H4	There is a significant relationship between expertise and the level of Shariah risk management practices.	supported

4.9 Views and Suggestions of the Respondents

There are few respondents' views and suggestions regarding the Shariah risk management practice and its implementation. Respondent 31 said that Shariah risk management has indeed been in developing stage at most of Islamic banks. Progression of the Shariah risk management process is ongoing and should be established at same level as other risk management, such as operational, credit, market and enterprise risk management. There should be a Shariah risk culture across the Islamic banks for better Shariah risk management practices.

According to respondent 20, Shariah risk management plays an important role so that Islamic banks can move towards Shariah-based instead of Shariah-compliant. Moreover, according to respondent 41 which is the head of Shariah risk management and respondent 27, the industry still lacks comprehensive guidelines with regard to Shariah risk management. As such, the practice of Shariah risk management may

differ from one bank to another. However, it is contradicting to the respondent 2 and 25 who say Shariah framework by BNM is robust enough to address the Shariah issues in the industry. It depends on the banks on how they implement to ensure that the objectives are met.

In addition, respondents 29 and 38 say that there should be more awareness and training conducted to build people's capability to manage Shariah risk.

4.10 Chapter Summary

The data used in this study were obtained from 68 respondents which represented a response rate of 86.08% and several tests were used to analyze the data. Normality test was carried out and showed that the variables are normally distributed. All variables obtained reliable Cronbach's alpha, which gives support to the internal consistency of the study and the assumption of factor analysis were met. To determine the strength of the relationship between the variables, Pearson correlation was used. Multiple regression analysis was also conducted to determine the independent relations as well as the contribution of IV's in predicting Shariah risk management practices as the dependent variable. Respondent's comments and suggestions were considered in this study. The next chapter will discuss and conclude the findings of the study.

CHAPTER FIVE

Discussion and Conclusions

5.1 Introduction

This chapter summarizes and discusses the result of the analysis explained in the previous chapter and answers the research questions mentioned in chapter one. This chapter begins with a recapitulation of study followed by discussion regarding findings and the implications and contributions of the study coupled with its limitations and direction for future research. This chapter ends with the conclusion of the study.

5.2 Recapitulation of the Study

This study attempted to identify the relationship between the independent variables (Shariah risk management process, Shariah board involvement, knowledge, expertise) and the dependent variable which is Shariah risk management practices. It also attempted to identify the most influencing determinant factor on Shariah risk management practices. The data were collected from the five largest Islamic banks in Malaysia. Seventy nine (79) questionnaires were distributed and 72 were returned (91.1%). After a thorough check of the returned questionnaires, it appeared that only 68 (86.08%) were usable for analysis.

This research had also set up to accomplish the following particular objectives:

1. To identify the relationship between Shariah risk management processes and Shariah risk management practices

2. To examine the relationship between Shariah board involvement and Shariah risk management practices
3. To identify the relationship between knowledge and Shariah risk management practices
4. To study the relationship between expertise and Shariah risk management practices
5. To identify the most influencing factors that influence Shariah risk management practices

5.3 Discussion

The main focus of this study is Shariah risk management practices, which is the fundamental factor that plays a vital role in how well the Islamic banks manage the event of Shariah risk. Consequently, analyzing Islamic banks Shariah risk management is important to know whether they are efficient in managing any non-compliance event. This is because any non-compliance with the Shariah is a crucial issue of attracting and maintaining customers. Several researchers have studied the risk management practices by analyzing its factor such as risk management process and board involvement, for example, Al-Tamimi and Al-Mazrooei (2007), Hassan (2009); Abu Hussain and Al-Ajmi (2012), Khalid and Amjad (2012), Rahman et al. (2013). They have confirmed the important role of the risk management process in predicting risk management practices. On the other hand, Rahman et al. (2013) confirms the significant relationship of board involvement towards risk management practices. One of the major concerns in the Islamic banking system in Malaysia is the compliance with the principle of Shariah. Therefore, this study identifies the factors that influence Shariah risk management practices of Islamic banks in Malaysia.

5.3.1 Shariah Risk Management Process and Shariah Risk Management Practices

The first research question deals with the relationship between Shariah risk management process and Shariah risk management practices. Accordingly, hypothesis one (H1) states, “There is a significant relationship between Shariah risk management process and Shariah risk management practices”. The finding of this dimension had a positive and significant relationship with Shariah risk management practices ($\beta=.345$, $p<0.05$). This is the highest value of beta in the model which implies the variable has strongest influence on Shariah risk management practices which answer the question five that states, “What are the most influencing factors towards Shariah risk management practices” and support the hypothesis one (H1) that states, “There is a significant relationship between Shariah risk management process and Shariah risk management practices”.

The result of this study is similar to Al-Tamimi and Al-Mazrooei (2007), Hassan (2009), Abu Hussain and Al-Ajmi (2012), Khalid and Amjad (2012), Rahman et al., (2013) that provide evidence on the positive relationship between risk management process and risk management practices. In addition, this study support Rahman et al., (2013) that confirms risk management process gives direct significant influence on risk management practices.

Therefore, the current study's result shows that Shariah risk management process gives positive and significant influence on Shariah risk management practices. This means that the more favorable increase in the level of Shariah risk management process will increase the level of Shariah risk management practices of Islamic banks.

5.3.2 Shariah Board Involvement and Shariah Risk Management Practices

Research question number two deals with the relationship between Shariah board involvement and Shariah risk management practices of Islamic banks in Malaysia. Hypothesis two (H2) is “There is a significant relationship between Shariah board involvement and Shariah risk management practices”. From the result obtained in the previous chapter, it appeared that Shariah board involvement has a positive relationship with Shariah risk management practices, but doesn’t give much significant influence ($\beta=.214$, $p>0.05$) since significant value is above 0.05. This is due to the Shariah board in Islamic bank is somehow not directly involve in daily activity or they are not in the banks daily.

In addition, this study does not support the study of Rahman et al. (2013) who confirms the significant influence of board involvement in risk management practices. This is because of different in nature as the current study focus only on Shariah board/Shariah committee, while the study of Rahman et al., (2013) is focused on risk management and board of directors in general.

Furthermore, most of the Shariah board is involved in different universities; as such, they are not directly there in the banks to monitor the day to day operation. According to one of the respondents involved in this study which is Shariah head department, who was interviewed by the researcher, Shariah compliance assessment is being done by the Shariah department people and whatever the result of it, will discuss further with the Shariah head of the bank with the Shariah committee/board (Recording – 1600581409, 2014).

5.3.3 Knowledge and Shariah Risk Management Practices

Basically, this research tries to identify the factors that influence the Shariah risk management practices of Islamic banks in Malaysia. Thus, knowledge becomes one of the factors that could influence the practice of managing Shariah risk by the Islamic banks.

The third research question deals with the relationship between knowledge and Shariah risk management practices. Accordingly, hypothesis three (H3) states, “There is a significant relationship between knowledge and Shariah risk management practices”. The findings of knowledge revealed that it has a positive relationship, but does not significantly influence the Shariah risk management practices ($\beta = -.023$, $p > 0.05$) that give a significant value above 0.05. Therefore, it doesn't support the H3. This might be because employees don't want to share their knowledge or get involved in the company's policy.

According to Mathieu and Zajac (1990), the insignificant relationship between the knowledge of the employees and risk management could indicate a low organizational commitment of the employees towards the bank. Organizational commitment of employees is described by the attachment between the employees and their willingness to contribute to the institutions vision and mission (Blau & Boal, 1987; Mathieu & Zajac, 1990). In order to contribute to the development of the organization's vision and mission, it is crucial for the employees to pay attention to the development of their skills, knowledge and abilities constantly (Sohail & Salina, 2009).

Therefore, Islamic bank staff must have a commitment in the organization by sharing their knowledge and contributing ideas to increase the level of the institution's Shariah risk management practices. In addition, Islamic banks must ensure that the employees are knowledgeable in terms of Shariah generally and specifically.

5.3.4 Expertise and Shariah Risk Management Practices

The fourth research question deals with the relationship between expertise and Shariah risk management practices. Hypothesis four (H4) states, "There is a positive relationship between expertise and Shariah risk management practices". The study found expertise to be a predictor of Shariah risk management practices and it shows a positive and significant influence on Shariah risk management practices ($\beta=0.337$, $p<0.05$) supporting the research hypothesis four (H4) using multiple regression.

In addition, expertise in both Shariah and banking operation plays an important role. Having in-house skills and expertise would help the Islamic banks to manage and mitigate and non-Shariah compliance event.

The finding shows a significant influence on Shariah risk management practices. This means that when the Islamic banker's expertise is at a high level, it will lead to significant increase in Shariah risk management practices.

5.3.5 Influencing Factors towards Shariah Risk Management Practices

Finally, the fifth research question deals with "what are the most influencing factors of Shariah risk management practices". The determinant factors consist of four, namely, Shariah risk management process, Shariah board involvement, knowledge,

and expertise. The result shows that two of the determinant factors significantly influence the Shariah risk management practice as mentioned previously. The Shariah risk management process is the most influencing factor which is consistent with the study of Rahman et al. (2013) that risk management process significantly influences risk management practices. The other most influencing factor is the expertise in which the result is closer to the former one.

5.4 Contribution of the Study

This research study might be useful to many parties due to its significance to the Islamic finance and banking sector. Thus, the finding provides contribution and implications that are classified in the following sections.

5.4.1 Theoretical Contributions

The primary objective of this study was to identify the Shariah risk management practices of Islamic banks in Malaysia and its determinant factors. A previous study on the relationship of risk management process, board involvement and risk management practices of both Islamic and conventional banking has been carried out. However, the current study is focusing on Shariah risk management practices which have not been widely conducted.

The contribution of this research from a theoretical perspective lies in determining the relationship of Shariah risk management process, Shariah board involvement, knowledge and expertise towards Shariah risk management practices, and how it influences the Shariah risk management practices. The results prove the association of

the four dimensions towards Shariah risk management practices. However, only two of the dimensions significantly influence the Shariah risk management practices.

The Shariah risk management process gives the most significant influencing factor which is consistent with the study of Rahman et al. (2013) that risk management process significantly influences the risk management practices. With regards to Shariah board involvement, it does not give significant influence with the Shariah risk management practices, which is not consistent with the study of Rahman et al. (2013) due to the difference in the nature of BoD and Shariah board.

On the other hand, expertise gives significant influence on Shariah risk management practices. Another contribution regarding theoretical framework is adding the knowledge and expertise as an independent variable which has not been studied before with this collection of variables. However, knowledge does not give significant influence on the dependent variable. This might be due to lack of organizational commitment among the bankers to share their knowledge. In addition, the expected findings have provided insights that enhance the Islamic banking system in managing Shariah risk through these determinant factors.

5.4.2 Practical Contributions

This research provides significant implication to Islamic banks' management and practitioner to realize the importance of managing Shariah risk or complying with the principle of Shariah.

The findings of the study can be utilized by Islamic banks management and practitioner in their effort to enhance Shariah risk management practices by

considering the determinant factors involved in this study, particularly in increasing the Shariah risk management process and building people's expertise both in Shariah and banking operation to achieve Islamic bank's goals.

The Shariah risk management process should be enhanced by understanding how the Shariah risk exists. The bank should identify and assess the possible occurrence of Shariah risk in all Islamic financial transactions and contracts signed. It includes the assessment of all Islamic financial products and services before and after its introduction to the market to ensure Shariah compliance. In addition, the bank must have proper monitoring of all transactions and contracts from the beginning until the end to control any Shariah non compliance event.

Another important factor that Islamic banks have to consider in enhancing the level of Shariah risk management practices is through human resource development particularly on the managerial expert in both Shariah and banking operation. The Islamic bank should ensure that all the staff have proper qualification and training policy within the organization.

Moreover, the study is of great interest and gives encouragement to the management to move forward and develop the Shariah as an overarching principle in Islamic financial institutions. In addition, it gives impact on Islamic finance and banking regulators to strictly promote the Shariah compliance of product and services of an institution and put greater emphasis on the implementation of Shariah risk management as well as comprehensive guidelines to support Shariah risk management.

5.4.3 Contribution to the Knowledge/Literature

To the best of my knowledge, Shariah risk management practices have not been widely conducted especially in Malaysia. The findings of this study will be a key point and encouragement to move forward to study other factors of Shariah risk management practices in Malaysia and other countries that offer Islamic finance and banking products. Thus, this study adds to the knowledge of Shariah risk management practices of Islamic banks.

5.5 Limitation of the Study

There are some limitations that appeared in the current study. First, due to time constraints, this study is limited only to five (5) Islamic banks in Malaysia to represent the industry. The chosen banks are located all in their headquarters in Kuala Lumpur. The researcher faced some scarcity of resources like funds, books, journals and research papers for the purpose of the study.

Furthermore, this study is also limited only on Shariah department/division of each Islamic bank as these people are involved in all Shariah related matter of Islamic banking system. Therefore the researcher has to get the number of bankers involved in the Shariah department in order to get the number of population and sample size.

The reliance on survey methodology gives a possibility that respondents express their beliefs and not necessarily their actions. In spite of the limitations, the result of the research provides a platform for future assessment and analysis to improve the current Shariah risk management practices of Islamic banks in Malaysia.

5.6 Future Research and Recommendation

This study investigated only five (5) Islamic banks in Malaysia regarding Shariah risk management practices. Thus, this study could be generalized to a large number of populations by examining the Shariah risk management practices of all Islamic banks in Malaysia. In addition, this could be extended through cross country studies and compare how Malaysia and other countries manage Shariah risk.

Furthermore, Shariah board involvement and knowledge does not give significant influence on Shariah risk management practices. Hence, these results need further investigations which may be carried out for future research to improve our knowledge about it and to provide more details regarding its influence on Shariah risk management practices.

Another useful research worth pursuing is to carry out other independent variables specifically by examining the existence and relationship Islamic banking regulators, Board of directors, Shariah auditors and review and their impact in enhancing Shariah risk management practices of an Islamic bank.

5.7 Conclusion

This study identifies the variables that could influence the practice of Shariah risk management, namely, Shariah risk management process, Shariah board involvement, knowledge, and expertise. The findings of this study have identified that the Islamic banks involved in this study are somewhat efficient or moderate in their Shariah risk management practices.

The findings revealed that the independent variables have a positive relationship with Shariah risk management practices. The study results show a strong significant influence of the Shariah risk management process followed by expertise on Shariah risk management practices. In contrast, Shariah board involvement and knowledge does not give much significant influence towards Shariah risk management practices which calls for more studies and investigation.

It is recommended the Islamic banking system should put a greater emphasis on Shariah risk management process as well as building skills and expertise for employees related to both Shariah and banking in order to manage and mitigate Shariah risk along with other types of risk to meet organizational objectives.

Finally, this study accomplishes its objectives in studying Shariah risk management practices of Islamic banks in Malaysia that provide significant implications in both theoretical and managerial implications.

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