RISK MANAGEMENT IN ISLAMIC BANKS: FINDINGS FROM LIBYA

İSLAM BANKALARI'NDA RİSK YÖNETİMİ: LİBYA'DAKİ BULGULAR

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ABSTRACT

Islamic banking is one of the new growing financial streams that emerged in the Islamic world in the seventh decade of last century. Emerging from pioneering counties such as Malaysia, the Islamic financial concept had to adjust many of the strategies in order to comply with the Islamic law. The heart of the Islamic law's financial instructions is the prohibition of interest and the sharing of profit and losses between the capital provider and the borrower. However, such a concept imposes many implications on the risk management of the financial institute adopting the Islamic banking concept. While traditional risk types, including credit, market, liquidity and operational risks, apply in Islamic banking, the sources of risk and mitigation strategies differ in comparison with conventional banking. Furthermore, there are unique risk types that accompany Islamic banking such as rate of return risk, equity investment risk, Sharia non-compliance risk, and displaced commercial risk. On the practical side, a case study of risk management in Libyan banks adopting Islamic banking principles is evaluated as a diagnostic research. The outcomes of the study show immaturity in the concept of risk management in the country affected by many non-financial factors. Therefore, the researcher provides his recommendation in order to empower development of the risk management concept in Libyan Banks.

Keywords: Islamic banking, Risk management, Libya, Sharia law, Diagnostic research

ÖZ

İslami bankacılık, geçen yüzyılın 70'li yıllarından itibaren İslam dünyasında ortaya çıkan yeni finansal akımlardan biridir. Malezya gibi öncü ülkelerde ortaya çıkan İslami finans kavramı, birçok finansal aracın ve stratejinin İslam hukukuna uygun hale getirilmesini amaç ediniyordu. İslam hukukuna göre finansal uygulamaların ve talimatların özü, faizin olmayışı ve sermaye sağlayıcı ile borçlu arasında çıkar ve kâr / zarar paylaşımının tesis edilmesidir. Bununla birlikte bu kavramsal yapı, islami bankacılığı benimseyen finansal kurumların risk yönetimi üzerinde birçok etkiye neden olmaktadır. İslami bankacılıkta kredi, piyasa, likidite ve operasyonel riskler de dâhil olmak üzere geleneksel risk türlerinin yanında, risk kaynakları ve risk azaltma stratejileri geleneksel bankacılık ile karşılaştırıldığında farklılık arz etmektedir. Ayrıca İslami bankacılığa eşlik eden, getiri oranı, hisse senedi yatırım riski, şeriata uygunsuzluk riski ve malın el değiştirmesi neticesinde oluşan ticari risk gibi benzersiz risk türleri de vardır. Bu araştırma, İslami bankacılık ilkelerini benimseyen Libya bankalarında risk yönetimine ilişkin bir durum değerlendirmesidir. Araştırmanın sonuçları, finansal olmayan birçok faktörden etkilenen ülkedeki risk yönetimi kavramındaki olgunlaşmamışlığı göstermektedir. Bu nedenle, bu araştırmada Libya Bankalarındaki risk yönetimi kavramının gelişimini güçlendirmek için bir dizi öneriler sunulmaktadır.

Anahtar Sözcükler: *İslami bankacılık, Risk yönetimi, Libya, Şeriat kanunu, Diagnostik araştırma*

1. Introduction

Islam, as a religion, extended its influence beyond the spirituality and worship. There are many evidences in the Quran, the Islamic holy book that regulated debt, inheritance and transactions. Therefore, the history of finance and banking in the Islamic context can be extended to the existence of Islam since the 6th century (Alharbi, 2015). As the Islamic financial system renounces an interest based financial transactions, contracts or deals, the Islamic scholars and financial specialists started thinking of a system that is compliant with the Islamic requirements in the 19th century. However, the first initiatives towards such a goal started in Egypt and Malaysia through separate projects, which resulted into launching the Islamic Development Bank (IDB), known as the first international bank adopting Islamic finance in 1975 (Ali M. A., 2015).

In order to understand the Islamic banking as a concept, it is significant to define it as a term. The Organization of Islamic Cooperation (OIC) have put a definition for the term as (Mohamad, Abdullah, Mohamad, & Abdin, 2013):

> *"An Islamic bank is a financial institution whose statute, rules and procedures expressly state its commitment to the principle of Sharia (Islamic law) and to the banning of receipt and payment of interest on any of its operations"*

Moreover, the Islamic banking and finance system is solely dependent on the Islamic teachings and rules, and the way financial regulations are adopted is mainly the same way Islamic rules are interpreted and applied. Nonetheless, the clear rules of Islam in financial transactions are regulated by the following (Mohamad, Abdullah, Mohamad, & Abdin, 2013) (Ajagbe & Brimah, 2013):

1. Interest is prohibited, which is a recurring interest whether it was on the original or the remaining amount of borrowing. These transactions are called "Riba" or usury, which was existent prior Islam and was prohibited afterwards.

2. Uncertainty in any transaction is prohibited, which means that any contract or financial transaction that is tied to speculations, gambling and high risks. These transactions are called "Gharar" under the Islamic law.

3. Activities that are involved in any transactions should be based on permitted goods and services. For instance, alcoholic beverages, pork meat and unlawful killing are all prohibited activities in Islamic law, and any transactions that deals with any of them to any extent are not permitted, or called "Haram" as per the Islamic terms.

4. Transactions have to be fair and just, which implies an ethical code of conduct that does not permit treating any of the parties in the transaction in a way to hurt them physically, psychologically or financially. The transactions should be based on mutual benefits.

Alternatively, the Islamic banking system provided several substitutions to the conventional banking transactions based on the Islamic law such as buying and selling, and joint ventures (Ajagbe & Brimah, 2013). Currently, the Islamic banking sector hold over $882 billion total assets as reported in 2014 with an expected growth rate of 14% by the year 2020 (Al-Jowder, et al., 2016).

In the financial and banking sector, risk management is an essential subject to treat and monitor in achieving the ultimate goal of the institution of maximized revenues and assets' values. However, Islamic banks face complex and difficult risks for different reasons. First, Islamic banks, unlike the conventional banks, have significant market risks along with credit risks. Second, risks for each stage of transaction intermingle and change from one kind to another. For instance, istisnaa salam, murabaha, and leasing are exposed to both market and credit risks.

Furthermore, salam contract is exposed to credit risk and at the conclusion of the contract it is exposed to commodity price risk. Third, risks are magnified and difficult to mitigate due to the inflexibilities and deficiencies of infrastructure in institutions and instruments. For example, liquidity risk does not have shari'a-compatible short-term securities risk and the use of foreign exchange futures is prohibited in foreign exchange risk. This research illustrates different types of risks faced by an Islamic bank and the methods of both managing and measuring those types of risks.

Risk management is the most important challenge and central operation of Islamic banks, for this reason, this study focuses on the risk management in Islamic banks, contributing to individual or institutions and parties desirous of obtaining knowledge concerning risk management of Islamic banks. Therefore, the main aim of this study is to study the Risk Management and the challenges that faces Islamic banking through studying the case of Libya and investigate the credit, market status, liquidity and operational risks, and researching how they are measured. Moreover, the research examines the current maturity of the banking system in Libya and the direction towards Islamic banking, and stands on the issues that need to be resolved for further development.

Libyan financial sector mainly depends on government banks; and there are no full-fledged Islamic Banks. Conducting the study at all commercial banks and branches operating in the Libya is highly difficult; therefore, this study will be limited to some branches that have Islamic windows. In addition, some of the samples are small in number while the overall samples are limited to the Islamic departments of Libyan banks.

This study collects data from various resources related to the respondents' view and for content analysis, which may be generalized in providing a description of risk management in Islamic banking. However, the findings cannot be generalized to the conventional banks due to the system

2. Literature Review

The risk in any industry and especially in banking emerges from potential OD unknown results during the execution. Therefore, risk can be identified as activities in a plan where the path of execution can fluctuate leading to unfavorable outcomes. Moreover, the risk criticality can be measured from history by measuring the standard deviation of the available data. Although uncertainty is part of the work of any financial institution, there are many types of risks that can be predicted ahead according to activity nature. The main goal of financial institutions is to develop profit maximization strategies and increase their shareholder value by mitigation of risk for a smooth execution. Furthermore, risk classification is the first step to understand the risk, its extent and develop the most effective mitigation plan and actions. This process in financial institutions starts with separating the business risks, which arise from the business activity nature and market, from the financial risks.

The financial risks are mainly related to losses resulting from market and execution variables (Jorion & Khoury, 1996), which are connected to impacts of the responsibility distribution and unfulfilled commitments that are failed to be met by the current assets allocation (Gleason, 2000). Moreover, the risk can be also classified as systematic, where diversification of assets is not possible but mitigation can be achieved by adopting successful mitigation strategies and introducing better technologies, and non-systematic, where the assets may be diversified.

There are many risk mitigation plans that can be implemented, however, there are risk mitigation strategies that can be standardized in order to establish the initial point of action. According to (Santomero, 1997), there are three risk management strategies for financial institutions:

1. Risk elimination: adopting measures to end the risk.
2. Risk transfer: moving the risk impact to other parties outside of the institution.
3. Risk mitigation: managing the risk within the institution to reduce its impact.

Financial institutions cannot accept risks in any contract as it imposes financial impacts on them and may lead to failure. Therefore, these institutions use standard and simple practices, which can be managed with the minimal risks or they have the capacity to manage them to transfer them to other entities.

There are several standard risk management techniques that are used by financial institutions, which include avoiding the risk through merging the activities and operations that categorized under the same investment portfolio. Furthermore, there are other risks, which their impacts can eliminated by using another technology, hedging, selling claims, or modifying conduct conditions. Nevertheless, the bank might have to accept some of the risks, which there are no ways to eliminate, mitigate or transfer them. This condition occurs in the case of the risk complexity and difficulty of asset separation.

Furthermore, there are risks that have to be accepted by the financial institution, especially the ones related to the core of their business. Therefore, the bank establishes special strategies to deal with this type of risks and uses them as opportunities to be rewarded. For instance, the bank might inherit some risks or be affected by the market changes; however, the bank can turn such situations into winning situations by adopting the right steps and strategies. Moreover, there are two elements within this concept (Cumming & Hirtle, 2001):

1. Risk assessment: where the financial institution determines the risk exposure extent and its potential impacts.
2. Risk management: the whole process used by the institution to decide on strategies resulting from risk identification, assessment and control.

It is significant to understand the concept of risks in the conventional financial institutions prior discussing further details on risks in Islamic financial institutions as they share many components that unify their exposure to the same risks, especially the ones related to the market, regulations and customers.

The importance of risk management in the financial institution emerges from its desire to preserve its assets and reputation. However, taking risks is part of the institution's strategy to make profit, where high risks can be more rewarding as well as destructing. In this case, banks spare a certain amount of capital suitable for each risk in order to user in critical situations. According to (Basel Committe on Banking Supervision , 2001), there are four operations that define the financial risk:

1. Determining the category which the risk fall under whether it was a market, credit or operational risk.
2. Assessing the severity of the risk and its impacts according to the available data.
3. Monitoring the risk in a periodic and effective manner.
4. Reporting the risk to senior management in order to expand authority.

Moreover, there are many risk management strategies that are discussed in the literature, however, an inclusive list of measures is identified as the following (Rosman, 2009):

1. Identifying risk exposure
2. Data collection and quantifying the risk
3. Setting objectives
4. Establishing product and control guidelines
5. Risk assessment
6. Risk management strategy development
7. Implementing the risk management strategy
8. Evaluating the impact of the risk after implementing the strategy

According to (Basel Committee, 2006), there is a need to supervise the risk management process from a comprehensive point of view, which includes the senior management involvement in identifying, assessing, monitoring, controlling and mitigating of all risk potential and ensure the adequate capital allocation. Furthermore, (Akkizidis & Khandelwal, 2008) provided a description of risk management in Islamic banking which covered five main aspects:

1. Risk management in Islamic financial contracts and transactions.
2. Basel II recommendations and guidelines.
3. Islamic Financial Services Board (IFSB)
4. Credit and market risks
5. Operational risk management

Furthermore, (Iqbal & Mirakhor, 2007) mentioned that according to the ASEAN, the frame of risk management covers the necessity of assessing and managing the risks under the supervision of the organization in order to follow an established framework that is built to treat identified risks unique for the Islamic banking context.

2.1. Liquidity Risk

In a review by (Kim & Santomero, 1988), the study examined the role of the bank capital policy in managing liquidity risks through a mean-variance model, where the results demonstrated a methodology to limit the liquidity risks through:

1. Policy restrictions
2. Volatility of risky assets
3. Debt ratio

The magnitude of cost of liquidation, which is affected by the depositing rate and risk-free interest rate, puts a massive burden on the bank's hedging decisions. In an article by (Ali, Akhtar, & Sadaqat, 2011), the authors have proven that commercial banks in Pakistan have achieved a good performance in reducing liquidity risks by increasing returns on assets, which is better than its Islamic banking counterparts.

The liquidity risks emerge from challenges in getting cash by borrowing at a suitable interest rate to fund, which is called funding liquidity risk, or selling available assets, which is called asset liquidity risk. Therefore, there are many liquidity issues that faces Islamic banking due to the following reasons (Ali, Akhtar, & Sadaqat, 2011):

1. The Islamic law restriction on the use of available assets, which are viewed as debt.
2. The slow instrument development in Islamic financial institutions due to the many restrictions on contract details and lack of inter-Islamic bank money market.
3. Conventional banks provide liquidity through lender of last resort (LLR), which is a concept based on interest rate prohibited by the Islamic law.

Moreover, (Mohammad, 2013) raised other reasons behind the liquidity risks in Islamic banking, including:

1. Lack of access to Shariah compliant financial markets and intra-bank markets.
2. Lack of instruments that allows the bank to provide liquidity without breaching Islamic law.
3. The limited number of Islamic banks worldwide, which makes the capital collaborations between them difficult.

2.2. Credit Risk

The credit risk has been identified by (Brown & Moles, 2014) as the probability of not meeting the agreed terms of the credit agreement by the borrower, which also include the payment of the agreed interest rate. The credit risk can be monitored through identifying the assets that possess a ratio below a certain limit. Moreover, this type of risk is associated with any straight borrowing agreements in conventional banking, where loans are the clear example.

Furthermore, through the literature, there were several trials and models, which suggested different techniques, methodologies and findings to reduce credit risks:

1. Wilson, Summer and Hope (2000) has established a model based on the payment behavior and other social and non-financial information, which can indicate the credit risk and its severity, helping the credit assessors to reduce their risk.
2. Barnhill, Papapanagiotou and Schumacher (2002) concluded that the credit value of bank's portfolio is the most significant factor determining credit risk.
3. Haagensen (2006) stated that there are many default drivers that result into credit risk led by loan to value ratio and negative equity risk.
4. Fatemi and Fooladi (2006) has examined practices to minimize credit risk by focusing on the critical principles of credit risk model associated with the borrower's default risk.
5. Hassan (2009) highlighted that identifying the risk and assessing its impacts has major influence on managing and minimizing credit risks.
6. Anas and Mounira (2008) stressed that Islamic banking practices imposes a higher credit risk on the financial institute than the conventional practices, which demands a higher attention to risk management.

Since the main cause of credit risks is lending, the borrowing application commences with obtaining approvals from the credit department, which assesses the client's data and provides a risk profile for the application (Brown B., 1998; (Richard, Chijoriga, Kaijage, Peterson & Bohman, 2008). Therefore, the most effective approach in reducing the credit risk is achieved by identifying the impacts of the risk in this category, in accordance with Basel III (Ouamar, 2013).

Nonetheless, the credit risk is treated differently between conventional and Islamic institutions due the influence of Sharia law. In that context, the Sharia law does not permit the banks to deal based on an interest rate or uncertain contracts, whomever, the agreement must constitute sharing the risks between the bank and the client. This concept increases the Islamic bank's exposure to credit risk, which pushes the bank to increase the efficiency of the risk management process and perform additional due diligences in order to increase the success of the agreement.

Moreover, the Islamic banking specialists developed lending products, which satisfy the Sharia law and substitutes interest-based transactions. The main cause for credit risks in Islamic banking is the non-payment within the agreed time and amounts, especially under the Murabaha contract, which is a result of either financial issues or moral causes, also called willful default. In the case of willful default, the bank is required to identify in a timely manner, as payment restructuring is not permitted in Sharia law unless it is a case of willful default.

However, if the contract is under a profit sharing structure, which can be a Mudaraba or Musharaka contract, the credit risk arises from the institution not being paid the dividends as per the agreement, which requires the bank to always push for more financial information about the invested company.

2.3. Operational Risk

This type of risk imposes losses caused by the internal processes of the institution, its systems or personnel, as well as external factors, which summarizes them under three categories:

1. People
2. Processes
3. Systems

Islamic banking risks mainly fall under the credit or operational risk categories, which affects the institution's decision making process (Al-Tamimi & Al-Mazrooei, 2007) (Ray & Cashman, 1999).

In a review of operational risk in British banks, (Blacker, 2000) noted that mitigating operation risks starts by its detention and focusing on business unit management. In the same context, it was found that operational risks can be anticipated by using business recurring factors, not neglecting profitability and the risk adjustment for it (RAROC) (Allen & Bali, 2007). Furthermore, (Chapelle, Crama, Hubner, & Peters, 2008) concluded that energetic and focused operational risk management mitigation techniques can achieve unexpected results, even providing the far-reaching funds that seem difficult to achieve. Nonetheless, where many banks are working on diversifying their products and offering more innovative structures to their clients, studies have found that this practice is one of the main source of operational risk (Philippas & Siriopoulos, 2009).

To stand in the official definition of operational risk, (Basel Committe on Banking Supervision , 2001) defined it as "risk of direct or indirect loss resulting from inadequate or failed internal processes, people, and technology or from external events". In Islamic banking, the risk resulting from the personnel can be severe, especially when lacking professional employees who are aware of the operational risk's significance and able to carry on the operations in the Islamic context. Due to the nature of Islamic banking, there is a lack of software development that are compatible with Islamic financial institutions' operations, which imposes another type of operational risk related to technology.

Furthermore, the operational risk in Islamic banking arise from several causes, where the most important ones are (Vogel & Hayes, 1998):

1. Lack of standardization of contracts, which leads to the inability to negotiate the terms and conditions in an effective manner and may result into unwanted losses through execution. Since the Islamic financial institution finds it difficult to anticipate the risks emerging from the contract terms, it would be beneficial to establish standard contract forms, which gives the advantage of easier monitoring and risk assessing.
2. Lack of recognition of Islamic financial contracts in most of the countries, which increases the operational risks emerging from the legal dimension. Therefore, disputes' results can be unpredictable due to the gap between the law and the contracts.

2.4. Market Risk

This type of risk is defined in several sources, however, the definition of (Ahmed & Khan, 2007) states that market risk emerges from trading with assets in a certain market given its different legal, financial and economic environment. Moreover, the market risks are categorized under four types:

1. Equity price risk
2. Rate of return risk
3. Currency risk
4. Commodity price risk

In that context, (IFSB, 2005) stressed that Islamic banks are exposed to market risks due to the uncertain trading conditions that they operate under, or through activities where they try to create a new market which has not been tested for risks in a certain country's environment.

Furthermore, (Van Greuning & Iqbal, 2009) confirmed the above reasons for market risks and showed the influence of their prices in increasing the market risk in the Islamic banking context. Thus, this risk can be applied not only to the conventional instruments used in Islamic banking, but also to their developed derivatives. Nonetheless, since the value of Islamic banks' assets are all influenced by market conditions, any future market fluctuations can have a severe impact on the operations and capital of these institutions. Moreover, market risks can be of two types:

1. Systematic: which emerges from macroeconomic sources, such as currency, equity price risks, and the fluctuations in assets' position through the market conditions.
2. Unsystematic: which are directly related to the type of instrument or operation.

2.5. Islamic Banking Risk Management Studies

In the previous sections of this review, the main types of risks in Islamic banking in comparison with conventional financial institutions were discussed. However, other risks were discussed in the literature (Mohammad, 2013) provides a comprehensive model of risk in Islamic Banking as shown in Figure 2.1 below. The figure introduces other risk types such as:

1. Transparency risk: emerging from the lack of standardized accounting and reporting in Islamic banking.
2. Fiduciary risk: part of operational risk, where it emerges from the bank not fulfilling its contractual commitments
3. Reputation risk: which is not only emerging from a certain bank's operations, but also can emerge from the uncompliant conduct of banks claiming to provide Islamic banking products.

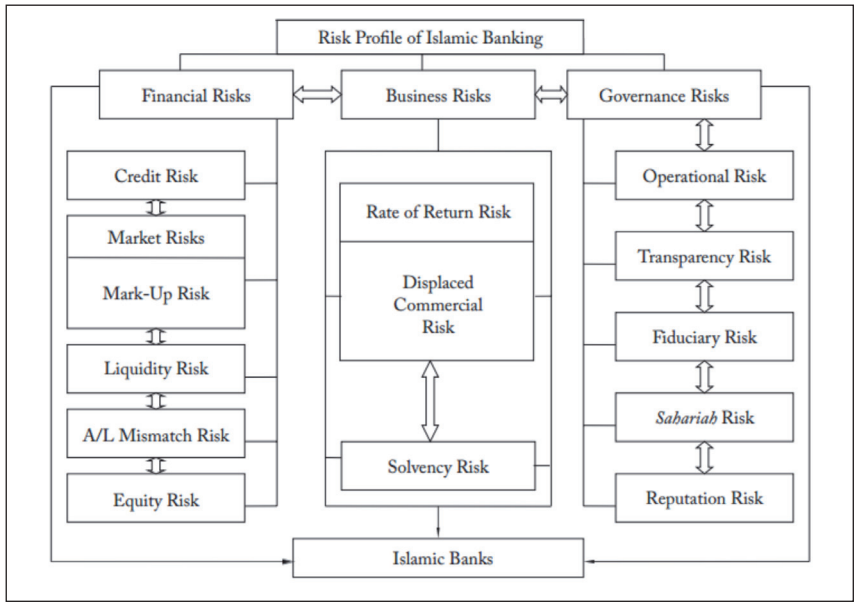

Figure 1. Comprehensive model of risks in Islamic Banking (Mohammad, 2013)

Since this research is utilizing a quantitative research method in measuring the risks in Islamic banking, it is beneficial to review similar studies' results to compare them in the discussion part of this research. In a study that was carried on Islamic and conventional banks in Pakistan, the researcher adopted a survey methodology to compare the risk in each type, where 121 banking professionals provided their assessment of the risk types under each model. Table 2.1 below provides the results of this study, where the participants believe that all types of banking risks are minimized by Islamic banking context. The results show that using Islamic banking mainly reduces the severity of market risks, while risks related to equity investment might not witness any differences between the two models. Nevertheless, the study results also showed a higher overall risk associated with Islamic banking in comparison to conventional banking (Yasin, 2014).

The study examined five aspects of the Islamic banking risk management in both countries. Moreover, each aspect was evaluated through several questions using a t-test, and the results of the study can be summarized as the following (Abdulrahman, Alsmady, Ibrahim, & Muhammad, 2014):

1. Risk management practices: the Islamic banks in Jordan had a better understanding of risk management strategies and performance, implementing the necessary trainings on the subject, diversification of assets to minimize market risk impacts, and compliance with Sharia law. Nevertheless, Islamic banks in both countries showed similar concerning involvement of executive management in reviewing the risk management practices, the level of documentation and contracts' standardization, personnel qualifications, implementation of IFSB guidelines, and applying Basel II Accord to enhance the risk management process.
2. Understanding risk management: the Islamic banks in Malaysia showed better results in raising common understanding of risk management amongst the Islamic banks in the

country, understanding the importance of detailed and sophisticated risk management, understanding the benefits of risk management techniques' application and understanding the connection between the Sharia law and the risk management practices. However, Islamic banks in both counties had a similar understanding of responsibility and accountability in risk management practices, and understanding more advanced risk management techniques.

3. Risk identification: all the elements under this aspect showed similarity points between the Islamic banks in both countries. Nonetheless, the Jordanian Islamic banks demonstrated better practices in prioritizing main tasks and achieving compliance of the risk identification process with the Sharia law.
4. Risk assessment and analysis: The Malaysian Islamic banks showed more advancement in using quantitative and qualitative methods in risk assessment and analysis procedures, while the other points under this aspect were similar in Islamic banks of both countries.
5. Risk control and monitoring: The Malaysian Islamic banks demonstrated better practices in effective monitoring through reporting, while other elements of these aspects were found similar in both countries.

On the overall results of the several aspects of risk management in both countries, shows that the Malaysian Islamic banks are stronger than their Jordanian counterparts in the aspects of understanding risk management, risk assessment and analysis, and risk control and monitoring, while the Jordanian Islamic banks were stronger in the risk management practices, and risk identification aspects than the Islamic banks in Malaysia (Abdulrahman, Alsmady, Ibrahim, & Muhammad, 2014).

In another study that examined the risk management practices in Islamic banking in Brunei Darussalam using a quantitative method similar to the previous study of (Abdulrahman, Alsmady, Ibrahim, & Muhammad, 2014), the author distributed 315 questionnaires to the Islamic banking professionals working for the existing three Islamic banks in the country, and qualified 156 questionnaires for analysis (Hassan, 2009).

Furthermore, the study showed results to six different aspects of risk management in Islamic banking as the following (Hassan, 2009):

1. Understanding risk measurement and management: the results of this aspects shows an adequate understanding of the practices under this category including; common understanding of risk management, responsibility and accountability for risk management items, understanding the impact of risk management on the overall performance of the Islamic financial institution, applying advanced techniques in risk management, continuous review of risk management practices, and the impact of sound risk management techniques on reducing losses and costs.
2. Risk assessment and analysis: the results of this aspects also show a good understanding of risk assessment practices in the Islamic banks of the country under all the aspects including; assessing the likelihood of the risks, using quantitative and qualitative methods in risk assessment, evaluation of risks according to the set objectives, include the costs and benefits in the risk assessment, practicing risk prioritization, and understanding the resources constraints during the risk assessment stage.

3. Risk identification: under this aspect, the Islamic banks in the country demonstrated a strong ability to systemize the risk identification process, identifying changes in the risks, and identifying the investment opportunities through risks. Nonetheless, the results also show that the Islamic banks in Brunei are facing challenges in prioritizing the risk items during the risk identification stage, and forming an idea about the weakness and strengthens of the risk management process in other financial institutions.
4. Risk monitoring: the results of the study under this aspect shows that the Bruneian Islamic banks practice several techniques to monitor the risks including; inspections, audits, surveys, process and SWOT analysis. Furthermore, the Islamic banks in the country demonstrated strong risk monitoring in different elements including; assessing the effectiveness of the existing risk monitoring process in a systematic manner, showing an acceptable risk control level, adopting effective reporting and communication system, and producing action plans for risk items and monitoring their execution.
5. Credit risk analysis: the Bruneian Islamic banks showed an acceptable credit risk analysis practices including; analyzing credit worthiness prior carrying out contracts, studying the client's profile in detail, assigning risk factors to clients, requiring security terms from risky clients, and reducing credit rating for defaulted contracts.

Risk management practices: the best element under this aspect was found to be identifying effective risk management as one of the bank's objective, which is practiced by all the Islamic banks in the country. Moreover, the Bruneian Islamic banks showed acceptable results for some risk management practices' aspects including; involvement of executive management, continuous review of risk management strategies, documentation of all contracts and transactions which helps risk management, implementing training programs for personnel on the risk management practices, and focusing on employing highly qualified professionals who possess the specific knowledge for risk management under Islamic banking context. Nevertheless, the results also demonstrated that the Islamic banks are facing difficulties in few items including; assets' diversification, applying Basel II accords to increase the risk management efficiency, and achieving an adequate ratio of capital to total risk weighted.

3. Research in Islamic Banks

In this research, which is a case study, it is aimed to clarify the following points:

- To assess the level of different risks faced by the Islamic banks in Libya,
- To evaluate the level of risk that Islamic banking in Libya undertakes in various financial transactions,
- To determine the risk management practices of Islamic banks in Libya,
- Identify and assess the risk of implementing the Islamic financial system of Libyan banks.

Therefore, employees from four major banks in Libya are selected for the case study, where they were asked several questions about the development of risk management in their financial institutions and its customization towards the Islamic banking context. The questionnaire used for this study was prepared by using various researches in the literature (Yasin, 2014, Abdulrahman, Alsmady, Ibrahim, & Muhammad, 2014, Hassan, 2009).

The evaluation of the participants is carried out on a six-point scale of severity from one to six, where one represents the absence of the risk and six represents very high-risk severity. Thus, the scale is divided as the following:

1. No risk/ product not available
2. Very low risk
3. Low risk
4. Moderate risk
5. High risk
6. Very high risk

The study was conducted on four of the most significant banks in Libya, which have an Islamic banking Subsidiary, as shown in table 2. The questionnaire was distributed equally in number among the four banks, 50 questionnaires each, with 200 questionnaires. After collection and disqualification of uncompleted surveys, a total of 147 questionnaires are qualified for the study analysis, providing a return rate of 73.5% of the total distributed surveys. The data is analyzed using SPSS Statistics, which provided a Cronbach's alpha of 0.839, classifying the reliability of the data as acceptable for the discipline of the research. Based on the population of the bank employees in Libya, which exceed 20000 people, and the size of the sample, the reliability of the study is calculated at 92.65%.

4. Findings and Discussion

This section of the study describes the findings from the survey questionnaire that was distributed on employees of four banks in Libya. It is significant to note that currently there are no Islamic banks in the country; however, there are movements and strategies to implement it. Therefore, the banks may vary in the level of implementation, as the concept is still new in Libya.

Participant were asked to mention the bank they work for, in order to be able to evaluate the level of implementation of risk management strategies and techniques in each bank in comparison with the other banks. One of the important factors to take into consideration is the year of establishment of the bank, in order to ensure the variety in maturity between the studied cases.

The positions and occupations of the participants were distributed among eight different categories. It can be noticed that the majority of the participants are from the accounting department and the management staff. Since the research aims to understand the status of Islamic banking in the Libyan banks and the strategies used for risk management, the survey also included credit analysts, loan officers and financial controllers, which contribute to the reliability of the results. Table 1 below shows the distribution of the positions and occupations of the survey participants.

Table 1. Positions and Occupations of the Participants

Positions and occupations of the participants	n	%
Accountant	73	29,55
Management Staff	64	25,91
Credit Analyst	20	8,16
Executive management	18	7,48
Sales & Marketing	14	5,67
Loan Officer	24	9,52
Customer Services	16	6,48
Financial Controller	18	7,23
Total	247	100

4.1. Risk Assessment for Islamic Banking Instruments

In evaluation of the conventional risk types in the Libyan banks, the participants indicated that they perceive the Islamic banking credit risks as very low to moderate in comparison with conventional banking. Nevertheless, an average non-availability percentage of 43.25% shows that although Islamic banking is adopted by most of the Libyan banks, the Islamic banking instruments are not developed in many banks and the employees are not well educated on their risk implications.

Table 2. Evaluation of Risk of Islamic Banking Key Instruments

Key Instruments/ Risk Group		Mean		1 Not Available	2 Very low risk	3 Low risk	4 Moderate risk	5 High risk	6 Very high risk
Overall risk assessment	Credit Risk	2,48	n	59	82	59	35	0	12
			%	23,80%	33,30%	23,80%	14,30%	0,00%	4,80%
	Liquidity Risk	4,16	n	0	71	0	71	35	71
			%	0,00%	28,60%	0,00%	28,60%	14,30%	28,50%
	Market Risk	3,43	n	12	59	23	129	12	12
			%	4,80%	23,80%	9,50%	52,30%	4,80%	4,80%
	Operational Risk	2,70	n	59	94	23	35	0	35
			%	23,80%	38,10%	9,50%	14,30%	0,00%	14,30%
Murabaha	Credit Risk	1,96	n	141	35	47	0	12	12
			%	57,10%	14,30%	19,00%	0,00%	4,80%	4,80%
	Liquidity Risk	2,75	n	106	23	23	47	12	35
			%	42,90%	9,50%	9,50%	19,00%	4,80%	14,30%
	Market Risk	2,28	n	129	23	23	47	12	12
			%	52,40%	9,50%	9,50%	19,00%	4,80%	4,80%
	Operational Risk	2,41	n	106	47	35	23	12	23
			%	42,90%	19,00%	14,30%	9,50%	4,80%	9,50%

Table 2 continue

Mudaraba	Credit Risk	2,22	n	106	47	47	23	23	0
			%	43%	19,00%	19,00%	9,50%	9,50%	0,00%
	Liquidity Risk	2,66	n	118	23	0	71	0	35
			%	47,60%	9,50%	0,00%	28,60%	0,00%	14,30%
	Market Risk	2,62	n	118	0	59	23	23	24
			%	47,60%	0,00%	23,80%	9,50%	9,50%	9,60%
	Operational Risk	2,76	n	94	35	12	71	12	23
			%	38,10%	14,30%	4,80%	28,50%	4,80%	9,50%
Ijarah	Credit Risk	2,34	n	118	35	23	47	12	12
			%	47,60%	14,30%	9,50%	19,00%	4,80%	4,80%
	Liquidity Risk	2,94	n	106	23	23	23	12	59
			%	42,90%	9,50%	9,50%	9,50%	4,80%	23,80%
	Market Risk	2,91	n	118	23	0	35	12	59
			%	47,60%	9,50%	0,00%	14,30%	4,80%	23,80%
	Operational Risk	2,36	n	141	23	12	12	35	23
			%	57,10%	9,50%	4,80%	4,80%	14,30%	9,50%
Istisna'a	Credit Risk	1,67	n	176	12	47	0	0	12
			%	71,40%	4,80%	19,00%	0,00%	0,00%	4,80%
	Liquidity Risk	2,38	n	165	0	0	35	0	47
			%	66,70%	0,00%	0,00%	14,30%	0,00%	19,00%
	Market Risk	2,23	n	153	12	12	35	12	23
			%	61,80%	4,80%	4,80%	14,30%	4,80%	9,50%
	Operational Risk	2,01	n	165	12	12	35	12	12
			%	66,50%	4,80%	4,80%	14,30%	4,80%	4,80%
Bai'salam	Credit Risk	1,89	n	106	82	35	23	0	0
			%	42,90%	33,30%	14,30%	9,50%	0,00%	0,00%
	Liquidity Risk	2,47	n	106	71	0	23	12	35
			%	42,90%	28,60%	0,00%	9,50%	4,70%	14,30%
	Market Risk	2,42	n	129	23	35	12	12	35
			%	52,30%	9,50%	14,30%	4,80%	4,80%	14,30%
	Operational Risk	2,13	n	153	23	0	47	0	23
			%	61,90%	9,50%	0,00%	19,10%	0,00%	9,50%

Moreover, the participants marked that the highest market risk is associated with the Mudaraba instrument, which could a result emerging from the fact that bank is forced to share the same risk with the customer as per the Sharia law. The liquidity risk in Islamic banking showed the highest risk rating among the four types of financial risk, which is considered a highly risky issue in Islamic banking as reviewed earlier through the literature. Furthermore, the Ijarah instrument shows the highest market risk source, which could be attributed to the instability and

continuous changes in the Libyan real estate market. Finally, the Istisna'a instrument is showed as the least implemented instrument in the Libyan Islamic banking, which explains its association to higher operational risks by the participants. Table 2 show the percentages of each risk rating with the risk types and the Islamic banking instruments in the Libyan Financial institutions.

Table 3. Evaluation of Risk of Islamic Banking Key Instruments

		Credit Risk	Liquidity Risk	Market Risk	Operational Risk
Overall	Mean	2,48	4,16	3,43	2,7
	Std. Dev.	1,262	1,557	1,182	1,643
	Comment	(3)	(4)	(5)	(3)
Murabaha	Mean	1,96	2,75	2,28	2,41
	Std. Dev.	1,401	1,856	1,583	1,655
	Comment	(2)	(3)	(2)	(3)
Mudaraba	Mean	2,22	2,66	2,62	2,76
	Std. Dev.	1,346	1,867	1,765	1,721
	Comment	(2)	(3)	(3)	(3)
Ijarah	Mean	2,34	2,94	2,91	2,36
	Std. Dev.	1,559	2,065	2,121	1,87
	Comment	(3)	(3)	(3)	(2)
Istisna'a	Mean	1,67	2,38	2,23	2,01
	Std. Dev.	1,251	2,042	1,776	1,579
	Comment	(1)	Low	(2)	(2)
Bai'salam	Mean	1,89	2,47	2,42	2,13
	Std. Dev.	0,975	1,822	1,847	1,704
	Comment	(2)	(3)	(3)	(2)

Risk Level: (1) Not risk; (2)Very low; (3) Low; (4) Moderate; (5) High; (6) Very high

4.2. Risk Management Techniques Implementation

The participants indicated if their banks use the specific techniques and tools utilized for risk identification, assessment, mitigation, monitoring and control. Table 3 below show the results of this part.

The last part of this survey addresses the use of reporting and risk management tools into the risk management practices of Libyan banks and Islamic banking. As shown earlier in Table 4.3, the Libyan financial institutions have issues utilizing risk management tools, which are considered as successful methods in conventional and Islamic banking. The main tools that are facing issues are:

1. Market risk report, which is essential in identifying, assessing and monitoring market risks.
2. Return rate risks report, which is necessary in order to sustain the competitively of the banks instruments.

3. Assets and stocks report, which is a tool needed in monitoring the values of the assets of the bank for early risk identification and management.
4. Market gap analysis
5. Return period analysis
6. Maturity analysis
7. Risk assets value analysis
8. Simulation techniques
9. Worst case scenario analysis

Table 4. Implementation of Risk Management Techniques and Tools in Libyan Banks

Risk Management Techniques Implementation	**Yes**		**No**	
	n	%	n	%
Capital risk report	91	61,9	56	38,1
Credit risk report	98	66,7	49	33,3
Market risk report	63	42,9	84	57,1
Return rate risk report	56	38,1	91	61,9
Liquidity risk report	91	61,9	56	38,1
Currency risk report	70	47,6	77	52,4
Assets and stock risk report	63	42,9	84	57,1
Operational risk report	56	38,1	91	61,9
Country risk report	84	57,1	63	42,9
Credit rating for potential investors	98	66,7	49	33,3
Market gap analysis	49	33,3	98	66,7
Return period analysis	63	42,9	84	57,1
Maturity analysis	49	33,3	98	66,7
Risky profit rate analysis	63	42,9	84	57,1
Risk asset value analysis	49	33,3	98	66,7
Simulation techniques	63	42,9	84	57,1
Worst case analysis	42	28,6	105	71,4
RAROC risk analysis	77	52,4	70	47,6
Internal systems evaluation	77	52,4	70	47,6

Furthermore, the results of the study show that the banks in the country are facing challenges implementing foreign exchange rate reports, RAROC analysis, and internal systems analysis. One of the most important steps in this aspect is implementing the necessary systems, and acquiring and developing the needed expertise to drive the risk management maturity in the country.

5. Conclusion

Based on the literature survey and the performed case study, this chapter provides the testing for the hypotheses, the researcher's recommendations and the conclusions of the study. Through the case study of this research, it can be strongly suggested that the concept and implementation of risk management in conventional and Islamic banking in Libya is still immature. While many countries developed their banking system, Libya has suffered from long years of ignorance and lack of development, which eventually influenced the financial and banking sector.

As elaborated in the literature and the case study results and discussion, an evident gap can be witnessed between and the regional banking sector from one side, and the Libyan financial institutions from the other side, which are still immature and desperately need an initiation and implementation of a development process. The results and outcomes of the study are narrated in the following sections.

As introduced earlier in the third chapter of this research, a group of hypotheses was established about the status quo of risk management in the Libyan financial institution, using the Islamic banking context. Therefore, and based on the results of the case study, the hypotheses are tested in order to establish the recommendations and conclusions of the research.

Are credit risks high under the Islamic banking context according to the assessment of Libyan banks?

Through the results of the questionnaire results, it can be seen that the credit risks in Islamic banking are not differently perceived from their counterparts of conventional banking. Therefore, based on this the result of this hypothesis testing is null. However, an alternative hypothesis of higher credit risks associated with some of the Islamic banking instruments over the others in Libya is proposed. The results suggest that the Libyan banking sector suggest that instruments that involve money lending, i.e. Mudaraba and Bai'salam, impose higher credit risks than conventional banking lending as the bank adopting Islamic banking is forced to equally share the losses of these contracts with the customer under the Sharia law.

Are liquidity risks are high under the Islamic banking context according to the assessment of Libyan banks?

The liquidity risk is one of the highest risks in Islamic banking as reviewed through the literature. The results of the questionnaire cannot indicate the results of the hypothesis. Therefore, the result of this hypothesis is null. Although this part of the case study did not yield differentiating results, an alternative hypothesis is proposed as higher liquidity risks associated with some of the Islamic banking instruments over the others in Libya. The results of the survey Mudaraba impose higher liquidity risks than conventional banking lending strategies and instruments.

Are market risks high under the Islamic banking context according to the assessment of Libyan banks?

According to the results and discussion of the feedback through the survey, the current situation in Libya definitely impose higher market risks than regular cases. However, there is no clear indication that Islamic banking as a concept impose higher market risks than conventional banking. Thus, the result of this hypothesis is null. Nevertheless, an alternative hypothesis is

proposed that higher market risks associated with some of the Islamic banking instruments over the others in Libya, which is indicated by the results of the case study in the Ijarah instrument, given the instable Libyan real estate market.

Are operational risks high under the Islamic banking context according to the assessment of Libyan banks?

As of other risk types in this research, the case study results do not indicate higher operational risks associated with Islamic banking in comparison with conventional banking, making the testing result for this hypothesis as null. Nevertheless, an alternative hypothesis of higher operational risks associated with some of the Islamic banking instruments over the others in Libya is proposed. The results of the questionnaire indicate that the financial institutions associate Bai'salam contracts with higher operational risks due to risks imposed from the back-to-back contracts with the goods suppliers. This also applies to the Istisna'a, as around 70% of the banking institutions in Libya are not familiar with its operational details.

Are the Islamic banking under the Libyan context impose high risks on different financial transactions?

Due to the current security and political situation of the country, it can be understood from the questionnaire results that practicing Islamic banking instruments in the Libya impose further risks on the nature of the transactions. Since many of the Islamic banking instruments involve investments in the local market, the result of this hypothesis can be concluded as true.

Is the Libyan banks, adopting the Islamic financial system, practice risk management techniques, and the concept of risk management mature in the country?

It is clear that the Islamic banking in the financial institutions in Libya suffer from immaturity at this stage. The risks assessment by the questionnaire participants show that many risks has a lack of awareness. Moreover, the majority of the techniques, tools and strategies used in risk management in Islamic banking worldwide are not initiated and implemented by the banks. Therefore, the testing result of this hypothesis is false, as there are many development areas that shall be implemented in order to establish a sound risk management system. The result of this hypothesis testing is false.

Are the Libyan banks adopting the Islamic financial system practice risk identification, assessment and monitoring?

The Libyan banks practice an unorganized form of risk management. However, there are no clear risk management strategies in identifying, assessing and monitoring risks. Therefore, the result of testing of this hypothesis is false.

Through studying the risk management in conventional and Islamic banking, and the specific risk management strategies, methods and plans, the research in its theoretical framework identifies four generic banking risks:

1. Credit risk
2. Liquidity risks

3. Market risks
4. Operational risks

Moreover, the study highlights the existing instruments in Islamic banking, including Murabaha, Mudaraba, Ijarah, Istisna'a and Bai'salam, and focuses on the implications of adopting the Sharia law in these instruments on their risk profile. In the literature review, it can be suggested that each instrument have its risk implication. However, the most affected risks in that sense are:

1. Liquidity, as the Islamic banking have limited access to Sharia complaint capital when needed.
2. Market, as the Islamic banks are in continuous struggle to match competitive profit rates provided by conventional banking, as well as the direct tie between the Islamic banking instruments with different markets such as commodities and real estate. Therefore, as fluctuations in these markets have direct implication on the risk profiles of the Islamic banking instruments.
3. Operational, as the Islamic banking instruments need to be continuously checked for efficiency and compliance with Sharia law.

Furthermore, the research identified Islamic banking specific risks, which are:

1. Rate of return risk
2. Equity investment risk
3. Sharia non-compliance risk
4. Displaced commercial risk

In studying the specific case of Islamic banking in Libya, the research suggests that there are specific risks that are associated with the country, which are mainly tied to the political and security current situation. Moreover, the hypotheses testing shows that the risk management in general, and specifically in Islamic banking, is a concept that lacks maturity in Libya. Therefore, the researcher provides his recommendation, based on the study and personal experience in the Libyan banking sector, to adopt international Islamic banking standards including risk management and increase the competitiveness of the executive management and banking personnel in general through trainings and involvement in international conferences on risk management and Islamic banking practices. These recommendations should enable the Libyan Islamic banking institutions to adopt tested practices in risk management, empower innovation of new instruments, and risk mitigation strategies.

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