



## An Empirical Study on Risk Management in Some Selected Conventional and Islamic Banks in Bangladesh: A Comparative Study

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### Abstract

The main objective of the study is to compare risk management practices of the selected conventional and Islamic banks. A total number of 14 private banks (7 are of interest based and 7 are of interest free) have been selected for the study purpose. For the purpose of collection of data, a total number of fourteen respondents taking one from each bank have been chosen. The main findings of the study are: i) there exists variation as regards the level of awareness and concernedness in respect of various types of risks between conventional and Islamic banks, ii) there appears to be a gap between the conventional and Islamic banks in the practices of risk identification, iii) there also exists variation between the conventional and Islamic banks in understanding of risk and risk management practices, iv) the conventional banks attach more importance to the advanced techniques of risk management as well as risk mitigation. But the Islamic banks give more importance to the traditional practice mainly and v) a number of problems has been facing in risk management practices by the respondents. Of these the major ones are: lack of qualified and experienced personnel, poor loan recovery and lack of market information as regards bank risk. Of the suggestions mentioned by the respondents for the removal of the problems; settings central MIS, moral persuasion of the borrowers, long term guideline of the central bank, modern loan monitoring system are the major suggestions.

**Keywords:** Risk identification; Risk mitigation; Shariah' Compliance; MIS; Liquid asset; Capital adequacy

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### 1. Introduction

A dramatic loss has taken place in the banking industry during last decade. Banks that had been doing well suddenly shocked by large losses because of imbalanced credit exposures, unadjusted interest rate or derivative exposures that

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was not assumed to hedge by adjusting balance sheet risk. As a result, commercial banks have considered upgrading total risk management systems. In addition to this, Islamic and Commercial banks are not facing same type of risk from the same direction. This study, therefore, exposed the gap of the risk identification, measurement and management practices between these two systems.

Risk management is said to be a cornerstone of prudent banking practice. Undoubtedly true that all banks in the present-day volatile environment are facing a large number of risks such as credit risk, liquidity risk, foreign exchange risk, market risk and interest rate risk, among others – risks which may threaten a bank's survival and success. In other words, banking is a business of risk. For this reason, efficient risk management is a must. Carey (2001) indicates in this regard that risk management is more important in the financial sector than in other parts of the economy. The purpose of financial institutions is to maximize income and offer the most value to shareholders by offering a variety of financial services, and especially by managing risks properly.

Risk can be classified into systematic and unsystematic risk. Systematic risk is associated with the overall market or the economy, whereas unsystematic risk is the current issue and full text archive of this journal is available at related to a specific asset or firm. Some of the systematic risk can be reduced through the use of risk mitigation and transmission techniques. In this regard, Oldfield and Santomero (1997) refer to three generic risk-mitigation strategies:

- (1) Eliminate or avoid risks by simple business practices;
- (2) Transfer risks to other participants; and
- (3) Actively manage risks at the bank level (acceptance of risk).

## **2. Literature Review**

A good number of studies have been published about risk management all over the world. However, the number of the empirical studies on risk management practices in the context of Bangladesh found to be relatively small. Moreover, the number of publications showing comparison between the conventional banking and Islamic banking seems to be scanty. The following is an endeavour to summarize the main conclusions of some selected studies.

Linbo (2004) worked with risk and efficiency in big banks of United States. He provides two important information on the bank efficiency in terms of profit creation related to risk of those banks. His finding suggests that profitability of a bank is sensitive to credit and solvency risk but not to liquidity risk or to the investment/ portfolio mix. A similar empirical work was conducted by Ho Hahm (2004) on interest rate and exchange rate exposures in Korea. His work depicts that Korean commercial banks had been very much involved with both interest rate and exchange rate risks. The result also says that the efficiency of Korean banks significantly associated with the degree of interest rate and credit policy.

Niinimaäki (2004) mentioned that the attitude of risk loving of the investors depends on the structure of Banks' risk management. In addition, if banks do work in monopoly market seems take higher risk that of a competitive market operator. In contrast, banks which have deposit insurance seem taking higher risk, if it is found that banks are

competing for deposits. As a result, the rate of interest for deposit account became higher than normal which, in result, increases banks' risk taking attitude to be profitable in competition.

The relationship between liquidity risk and loan-to-deposit ratio was examined by Wetmore (2004). From his study it was found that loan-to-deposit ratio has been increased during the period which facilitated a change in asset/liability management practices. A positive relation between market risk and loan-to-deposit risk has also been found from that study.

Wang and Sheng-Yung (2004) examined foreign exchange risk and world diversification. Empirical results suggested foreign exchange risk is priced high. Moreover, world diversification was shown to help portfolios globally. These findings suggest that Taiwanese exchange risks involves valid investment to seek international diversifications.

Khambata and Bagdi (2003) worked with off-balance-sheet (OBS) credit risk in top 20 Japanese banks. The main results of this study suggested that financial derivatives are heavily used by the top four banks and a wide difference across the banks in the use of derivative leverage. As compared to USA and European banks, Japanese banks use fewer OBS instruments as a percentage of their assets.

Al-Tamimi (2002) investigated UAE commercial banks and their risks management techniques. The study revealed that the credit risk was their high concern. The significant findings of the study are inspection by managers and financial analysis was the main risk identification method. Establishing standards, credit score, credit worthiness analysis, risk rating and collateral seems popular risk measurement techniques; the study also highlighted the willingness to use the most sophisticated risk management techniques in those banks.

Salas and Saurina (2002) contributed by providing policy guideline from their study which examined credit risk in Spanish banks; the study compared the determinants of problem loans during 1985-1997. Their suggestions are related to raise important bank supervisory policy issues: the use of bank-level variables as early warning indicators and the role of banking competition and ownership in determining credit risk.

Various risk management practices in financial organizations became the need of the time just after the financial distress faced by the whole world in last decade. In particular, United States required long time to restore their economy with serious regulatory changes. Many post crisis analysts found dissimilarities in terms of risk identification and management in different banks and financial organization before and during the crisis which was a self-destructive thought that brought such loss to the world economy.

Risk management defines the need of identification of core risks, method to develop consistent and accurate risk measurement, give the importance of risk reduction, avoidance and transfer through proper risk return calculation and best monitoring procedures of risk position for the organization. For banks, meeting the regulation not necessarily can avoid bankruptcy or financial harassment. Bank personnel require reliable risk identification, measurement and management culture to follow and monitor best risk-reward ratio.

The term risk is not uncommon in Islamic theory. To understand this concept from Islamic perspective one must look at two dimensions- taking risk without any information and permission of contract without acceptance of Islamic law. Regarding uncertainty, the facts should come under contractual agreement of suspected outcome. For example, the supplier's contractual obligation, where suppliers supposed to deliver a product but not in the position of the product means invalid the contract. However, even if the subject matter is non-existent in its essence at the time of the contract, the contract is deemed valid under certain circumstances, for example, in the case of *Istisna'a* and *Bai' Salam* as long the delivery of the subject matter is certain. *Bai' Salam* relates to a tangible commodity (for example, agricultural products), which is certain at the time of the contract, and *Istisna'a* refers to manufacturing or construction, where the goods do not exist yet at the time of the contract but detailed specifications from engineers do exist.

Risk sharing is the prime concern of Islamic financial system which deals with not only risk sharing but also economic development through value creation. For example, gambling is also prohibited in Islam though it involves with risk. The reason behind such rule is gambling is a zero sum game and does not contribute in development of economy. However, risk taking is based on educated analysis and an understanding of the risks that are necessarily present, whereas gambling creates a risk that would otherwise be non-existent. The Quran, one and the only guideline for the Muslim community, clearly prohibit us from gambling, as illustrated in these verses (Surah Al-Baqarah, verse 219 and Surah Al-Ma'idah, verse 90) relating to games of chance or gambling, referred to in Arabic as *maysir*.

Borrowings at short notice by discounting debt obligation receivables are prohibited in Islam (for example, through a central bank discount window). There is also no Shari'a-compliant lender-of-last-resort (LOLR) facility for Islamic Banks. This means that Islamic banks are particularly exposed to liquidity risk because they tie up substantial amount of their IAH funds in illiquid long-term assets, namely *Ijarah* assets or *Mudaraba/ Musharaka* profit-sharing arrangements. However, some Islamic banks take into consideration the level of liquidity on each type of account (investment, saving and current accounts) in order to meet investors' withdrawals. The level of liquidity is influenced by the liquidity requirements imposed by the regulatory agencies on Islamic banks. Each Islamic bank uses different liquidity management systems in order to achieve the same aim. This enables the Islamic banks to meet unexpected liquidity demands by current depositors and IAH.

Because of the lack of adequate Shari'ah compliant money market instruments for liquidity management and the underdevelopment of Islamic money markets, the studies by Islamic Financial Service Board (IFSB) in March (IFSB, 2008) provide suggestions for the development of the Islamic money market.

### **3. Statement of the Problem**

Recent financial disasters in financial and nonfinancial organizations and in governmental agencies stress the need for various forms of risk management. Financial misadventures are hardly a new phenomenon, but the rapidity with which economic entities can get into trouble is the savings and loan crisis in the United State. Banks and similar financial institutions are required to meet forthcoming regulatory requirements for risk measurement and capital. However, it is

a serious error to think that meeting regulatory requirements is the sole or even the most important reason for establishing a sound and advanced risk management system. Bank managers need reliable risk measures to direct capital to stay within limits imposed by readily available liquidity, by creditors, customers and regulators. They need mechanisms to monitor positions and credit incentives for prudent risk management by divisions and individuals. Risk management is the process by which managers satisfy these needs by identifying key risks obtaining consistent, understandable, operational risk measures, choosing which risk to reduce and which to increase and by what means and establishing procedures to monitor the resulting risk position.

In practice, risk management covers three main aspects; namely risk identification, risk measurement and risk mitigation. In all these aspects there are dissimilarities between the conventional and Islamic banks. This is because of the fact that conventional banks run on interest system but Islamic banks run on profit sharing system. As result, the concept of risk in Islamic financial system as well as conventional financial system varies to a greater extent. In an Islamic financial system, risk is viewed from two dimensions that is prohibition of “Gharar” (Uncertainty) and freedom of contract. Gharar, in the eye of Shariah (Islamic law) is any element of chance involving asymmetric information, uncertainty, risk or even speculation, and any result and profit are illicit and to be excluded according to the precepts of Islam. But in conventional banking system this is not the case. In such banks, depositors have a fixed claim on the banks’ asset according to predetermined interest rate plus return of their capital. A conventional bank must, therefore, perform its obligation to the depositors irrespective of its profitability. In contrast, Islamic banks are structured on the principle of risk sharing. This applies to the sources of fund and may also apply to the use of funds. With respect to Mudaraba, holders of profit sharing accounts are essentially stakeholders with a type of limited term equity interest. The return on their investment of the fund managed by the bank is uncertain. In case of Bangladesh, research on risk management is inadequate. Moreover, research on risk management of conventional banks and Islamic banks is not worth mentioning in Bangladesh. Because of the nature of risk and difference in risk identification, measurement and mitigation between Islamic banks and conventional banks, an in-depth study on this vital issue is a must. Therefore, in this study, the researchers have attempted to make an investigation into the vital aspects of risk management in conventional banks *visa vis* Islamic banks operating in Bangladesh.

#### **4. Methodology and Data**

##### *4.1 Research Objective*

The main purpose of this study is to compare the risk management practices of some selected conventional and Islamic banks operating in Bangladesh. This study also covers the following areas;

- Awareness of bank personnel regarding various types of risk management techniques
- Attitudes of bankers towards risk management practices
- Level of risk management practices
- Methods of risk identification and mitigation.

- Problems of risk management practices and their removal.
- Bangladesh Bank guidelines as to risk management and the gap between the guidelines and practices.

#### 4.2 Development of Hypothesis

Based on the above objectives the following hypotheses have been developed;

H1. There is a variation as to the awareness and concernedness of the various risks by the Islamic Banks and Conventional Banks

H2. There is a gap between the Conventional and Islamic banks in the practices of risk identification.

H3. There is a variation between the Conventional and Islamic banks in the understanding of risk and risk management and its practice

H4. A positive relationship exists between risk management practices and understanding of risk; risk identification and mitigation.

A total number of 14 out of 29 privately owned banks which are currently operating in Bangladesh are selected for the study thereby representing 29.78% of the total banks. Among them, the number of conventional and Islamic banks is even. Banks are selected based on their length of the operation, value of the firm and number of branches.

#### 4.3. Sample selection

Out of 47 banks now operating in Bangladesh, only 14 private owned banks are selected for the study. The reason behind such selection is the nonexistence of the public Islamic Banks in the country and public vs. private banks seems to be incomparable due to the management policies and government treatment. All the Islamic Banks, numbering seven, are;

*i. Islami Bank Bangladesh Ltd. (1983)*

*ii. ICB Islamic Bank Limited (1987)*

*iii. Al-arafah Islamic Bank (1995)*

*iv. Social Investment Bank Bangladesh (1995)*

*v. Export Import Bank of Bangladesh Ltd. (1999)*

*vi. First Security Bank Bangladesh Ltd. (1999)*

*vii. Shahjalal Islamic Bank Ltd. (2001)*

A similar sample size is selected from the Conventional Banks. The names of these banks are,

*i. The City Bank Ltd. (1983)*

*ii. Eastern Bank Limited (1992)*

iii. *Dhaka Bank Limited (1995)*

iv. *Mercantile Bank Limited (1999)*

v. *Mutual Trust Bank Limited (1999)*

vi. *Standard Bank Limited (1999)*

vii. *Jamuna Bank Ltd (2001)*

It is to be mentioned here that from each of the selected banks one respondent (In-charge of Risk management) has been chosen for collecting the requisite data and information; making the total number of respondents 14.

#### *4.4. Data collection and Questionnaire*

A structured questionnaire has been used to collect the primary data for the study. The questionnaire was mainly focused to understand three aspects of risk management practices: understanding risk and risk management; risk identification; risk assessment and analysis; risk measurement and risk mitigation practices. This part included 105 closed-ended questions designed on interval and ordinal scale. The second part consists of 04 open-ended questions. For the secondary data standard journal, articles, books, periodic and electronic sources have been used.

### **5. Application of the Model and Reliability of the measures**

Initially, reliability was evaluated using Cronbach's alpha, which measures deviation of the answers of respondents within a scale. Frequency table is a common in the study. Moreover, correlation and regression analysis have also been used in the study.

The questionnaire focused on three major aspects of risk and consists of total 119 questions. Reliability of the measures was assessed with Cronbach's alpha. It consists of estimates of variation in scores of different variables to chance or random errors (Selltiz et al., 1976). As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Nunnally, 1978). The overall Cronbach's alpha for the three aspects is (0.769). Cronbach's alpha for the individual aspects – risk identification (RI); risk measurement (RM) and risk management practices (RMP); is (0.679), (0.789) and (0.738) respectively. These results show that all of these aspects are reliable.

### **6. Analysis of the findings**

The findings of the questionnaire survey are sub-sectioned into following headings;

#### *6.1. Awareness of the banks' personnel regarding various types of risk of the bank and measurement level.*

The analysis of the table 1(a) (appendix 01) reveals that there are differences between Islamic Banks and Conventional Banks as regards the awareness of different types of risks. As regards the awareness of Credit/Investment risk and Performance of the Operational risk, there is no difference between Islamic Banks and Conventional Banks. But as regards the other types of risks there is variation between Islamic Banks and Conventional Banks. The highest

variation has been observed in case of Shariah non-compliance risk and Interest rate risk followed by Price Risk and Environmental risk. In case of other risks the variation of awareness has been observed at 14.3%.

The analysis of table 1(b) (appendix 01) reveals that there are also variations as regards the level of awareness of the various risks between Islamic Banks and Conventional Banks. In case of Islamic Banks, 100% respondents have been highly aware as regards Credit/Investment risk, 71.4% respondents have been highly aware of Liquidity risk, Foreign exchange/Currency risk and Performance/operational risk. Only 42.9% respondents have been highly aware Environmental risk, Rate of return risk and Shariah non-compliance risk. Only 14.3% respondents have been highly aware of Interest risk and Price risk. But, in case of conventional banks, 100% respondents have been highly aware of all types of risk shown in the table excepting Shariah non-compliance risk about which no respondents is highly aware.

### *6.2. Concernedness about the various types of risk.*

The concernedness of the various types of risks also varies between Islamic Banks and Conventional Banks as shown in table 2 (appendix 01). In case of Islamic Banks, 100% respondents have been highly concerned as regards Credit/Investment risk; 71.4% respondents have been highly concerned as regards liquidity risk, Environmental risk and Rate of return risk each. Only 14.3% respondents are highly concerned about Foreign exchange risk. But in case of Conventional banks 100% respondents have been highly concerned as regards Credit risk and Interest risk each. 71.4% respondents and 57.1% respondents have been highly concerned regarding liquidity risk and rate of return risk respectively. Only 28.6% respondents have been highly concerned about Foreign exchange/Currency risk, Performance risk, Environmental risk and Price risk each.

Therefore, H1- "There is a variation as to the awareness and concernedness of the various risks by the Islamic Banks and Conventional Banks" has been proved in our study.

### *6.3. Awareness of the various types of the risk identification techniques and its measurement level.*

As regards the awareness of risk identification techniques, table 3(a) (appendix 01) reveals that all the respondents of both the Islamic Banks and Conventional Banks have been aware of risk identification techniques namely Inspection by the bank risk manager, Audits or physical inspection and Financial statement analysis only. As regards the techniques SWOT analysis 85.7% respondents of the Islamic Banks have been aware. In case of conventional banks, 100% respondents have been aware of Process analysis, SWOT analysis, Inspection by outside, Benchmarking, Scenario analysis and internal communication. Thus it can be said that Islamic Banks have been aware of only traditional risk identification techniques but the Conventional Banks have been aware of both traditional and advanced techniques namely process analysis, benchmarking, scenario analysis and internal communication.

There appears to be variation as to the level of risk identification techniques between IC and Conventional Banks. Table 3(b) (appendix 01) reveals that 100% respondents of both the banks have been highly aware of Inspection by the bank risk manager, Audits or physical inspection and financial statement analysis only. Then, in case of Islamic banks 71.4% respondents have also been highly aware as to SWOT analysis. Whereas only 28.6% respondents of



Conventional Banks have been fully aware of these techniques. In case of both Islamic Banks and Conventional Banks, only 28.6% respondents have been highly aware of the techniques benchmarking and internal communication. Therefore, it is seen that H2 that is “There is a gap between the Conventional and Islamic banks in the practices of risk identification” has also been proved.

#### *6.4. Use of various risk management techniques.*

Table 4(a) (appendix 01) presents the picture of use of risk management techniques in the sample banks. The table depicts that 100% respondents of both the banks have used credit ratings and Interest based rating systems. In case of Islamic Banks 85.7% respondents have used duration analysis, credit scoring and credit scoring committee techniques each. Again, 71.4% respondents have used GAP analysis, Scenario analysis, Value at risk, Stress testing techniques each. In case of Conventional Banks 100% respondents have used Scenario analysis, Maturity matching, Value at risk, Simulation techniques, Risk adjusted return on capital, Interest based rating, Credit scoring and Credit committee techniques each. Again, 71.4% respondents have followed GAP analysis and Stress testing techniques each. Therefore, it can be said that both the Islamic Banks and Conventional Banks used traditional techniques and as well as advanced techniques while measuring risk in their banks.

As regards the frequency of use of risk management techniques by the selected sample table 5(b) (appendix 01) has been presented. The said table depicts that in case of Islamic Banks 85% respondents have mostly used the techniques credit scoring and credit committees. 71.4% respondents have mostly used the techniques credit ratings, duration analysis, maturity matching and stress testing. But in case of Conventional Banks 100% respondents mostly used credit scoring. 71.4% respondents and 57.1% respondents mostly used credit committees and interest based rating system respectively. Only 28.6% respondents have used Scenario Analysis, Duration Analysis, Maturity Matching, Earning at risk, Value at risk, Simulation techniques, Stress testing, Risk adjusted return on capital and Credit scoring. From the above analysis it can be said that vast majority of the respondents of Islamic Banks have mostly used the majority risk management techniques. On the other hand, in case of conventional banks vast majority of the respondents have frequently used the majority of the risk management techniques.

Therefore, it can be said that H3-“There is a variation between the Conventional and Islamic banks in the understanding of risk and risk management and its practice” has also been proved in the study.

#### *6.5. Awareness of the risk mitigation approaches & measurement level*

Table 5(a) (appendix 01) presents the picture of use of risk mitigation approaches in the sample banks. The table depicts that In case of Islamic Banks 100% respondents have agreed about risk reduction. 85.7% respondents have agreed to avoid risk and 42.9% have agreed to use the approach of risk mitigation namely; Risk transferring and risk sharing. Only 28.6% respondents have agreed for risk retention technique. In case of Conventional Banks all the respondents have agreed for risk Retention, Transferring, Sharing and Risk reduction techniques. Only 28.6% respondents have agreed for risk avoidance techniques for risk mitigation. Therefore, it can be said from the above

findings that Islamic Banks have been using the approaches as mentioned in Table 5(a) to lesser extent to mitigate risk of their banks than that of Conventional Banks.

As regards the level of use of risk mitigation approaches by the selected sample table 5(b) (Appendix 01) has been presented. In case of Islamic Banks 71.86% respondents have highly agreed for the risk reduction approach for risk mitigation in their banks followed by risk avoidance by 85.7%, risk transferring and risk sharing by 42.9% each and only 28.6% respondents have highly agreed for risk retention approach. The said table depicts that in case of Conventional Banks, only 28.6% respondents have highly agreed for using risk avoidance approach. Again, only 14.3% respondents have only agreed for the risk avoidance, risk retention and risk reduction approaches. From the above analysis it can be said that simple majority of the respondents of Islamic Banks have highly agreed for various risk mitigation approaches than that of Conventional Banks. In case of conventional banks vast majority of the respondents have only agreed to use few of the approaches for risk mitigation in their banks.

#### *6.6. Awareness of risk mitigation techniques & measurement*

Table 6(a) (appendix 01) depicts significance difference between the Islamic Banks and Conventional banks as regards the specific risk mitigation techniques. Results from the questionnaire suggests that Islamic Banks are less aware about following techniques compared to Conventional Banks, namely; Loan loss reserve, On balance Sheet netting, Parallel contracts, Over the counter derivatives. In addition, all the respondents of both the Islamic Banks and Conventional Banks have found aware of Collateral Agreement and Guarantees. However, Islamic Banks have found higher awareness only for the Third party enhancement compared to Conventional Banks by around 14.3%. 12

Even though table 6(a) (appendix 01) suggests that Islamic Banks are less aware

Even though table 6(a) (appendix 01) suggests that Islamic Banks are less aware than Conventional Banks in terms of aware of the techniques for risk mitigation, table 6(b) (appendix 01) depicts different results, the uses of different risk mitigation techniques have been found higher than that of Conventional Banks. As regards Islamic Banks, Guarantees has found highly used by all the banks. Collateral agreement, Loan loss reserves, Third party enhancement, Parallel contract and On balance sheet netting and Over the counter derivatives have been using by the Islamic Banks by 85.7%, 71.4%, 57.1%, 28.6% 28.6% and 14.3% respectively. As opposed regarding the Conventional Banks, all the respondents have said that collateral has highly been used for risk mitigation. However, 71.4% agreed that Third party enhancement and loan loss reserves have only used by the banks. In addition, all the respondents also opined that On balance sheet netting, Guarantees and Parallel contracts have neutral as to the use for the same purposes. The above findings suggest that Conventional banks fully concentrate on risk mitigation using Collateral, Third party enhancement and Loan loss reserve which has also marked as high usability by the Islamic Banks.

Therefore, it can be said that H4-“A positive relationship exists between risk management practices and understanding of risk; risk identification and mitigation” has also been proved in the study.

#### *6.7. Attitude of management towards risk management practices*

Refer to the table 7 (appendix 01) Management attitude towards risk management seems favourable both in Islamic banks and Conventional Banks. As regards particular risk, a slight difference has been observed. All the respondents of Islamic Banks have shown highly positive attitude towards Credit risk and Liquidity risk; 85.7% respondents showed highly positive attitudes towards Performance risk. Foreign exchange risk and Interest rate risk have been found highly positive by 42.4% and 14.3% respectively. As regards Conventional Banks, 100% respondents showed highly positive attitude towards Credit risk followed by Liquidity risk by 57%. Interest rate risk, Foreign Exchange Risk and Performance risk have found highly positive attitudes by the management by 28.6% respondents.

#### *6.8. Major problems involved in risk management practices and the suggestions to remove the same.*

At this stage, our respondents were asked to mention the major problems in risk management practices and the suggestions for the removal of the same. Table 8 depicts the picture in this regards. The table reveals that Lack of qualified and experienced personnel ranks first as it is mentioned by 50% of the total respondents followed by Poor loan recovery problem which is mentioned by 30.77% respondent; followed by Lack of Market information as it is mentioned by 23.8% and the remaining problems namely- Capital inadequacy, Improper Credit identification and rating, Short term guideline from BB, Weak Liquidity management and Poor loan monitoring have ranked 6.6th each as mentioned by 15.38% respondents.

The respondents have mentioned the following suggestions for the removal of above mentioned problems.

- i. Adequate market information needs to be available by setting Central Management Information System (MIS).
- ii. Capital in adequacy of the banks should be met as far as possible by gathering more capital.
- iii. Loan recovery should be strengthening by moral persuasion of the borrowers.
- iv. Credit identification and rating system should be included by using modern techniques.
- v. Long term guideline should be provided by the Central Bank.
- vi. Improving liquidity management of the banks by providing more and more liquid assets.
- vii. Loan monitoring system should be improved as far as possible.

#### **7. Conclusions**

From the analysis of the study, it can be concluded that risk management is one of the cores of all the strategic management of a bank. This is because of the fact that banking business itself is a business of risk whether Credit risk, Liquidity risk, Performance risk, Interest rate risk etc. Therefore, the management of the respective banks must give due emphasis on the management of various banks' risks in order to run the banks successfully. The study reveals that there are variations between the Conventional banks and Islamic Banks in understanding of risk (awareness of risk), using risk management techniques as well as risk mitigation techniques. The study also reveals that conventional banks use advanced methods of risk identification techniques, risk management techniques as well as risk mitigation techniques to a great extent along with traditional techniques. So, these banks give due importance to the Advanced techniques of risk management as a whole. But, the Islamic Banks give more emphasis on traditional methods of risk identification, risk management and risk mitigation techniques because of shortage of qualified and experienced bank officials.

The following policy implications may be followed in the context of efficient and sound risk management practices in the sample banks;

- i. Bangladesh bank guidelines as regards the risk management techniques must be followed by the banks into-to without failure.
- ii. Providing market information as to the various types of the risk is must of the banks.
- iii. The adequate information may be provided setting up central MIS system by the banks.
- iv. High loan recovery rates must be ensured in order to make the banks more sustainable since it is one of the criteria of financial sustainability of the banks. In these respects sectioning loans and advances after proper appraisal of the loan application by the bank authority is a must. In this respect, loan monitoring systems also need to be included.

These policy implications cannot be implemented by the respective banks authority. The role of Bangladesh Bank, as the guardian of commercial banks, is also essent

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**Appendix 01**

**Table 01(a): Awareness of different types of risk faced by respondents**

	Islamic Banks	%	Mean	SD	Conventional Banks	%	mean	SD
Credit Risk/ Investment Risk	7	100	1.00	.000	7	100	1.00	.000
Liquidity Risk	6	85.7	1.14	.378	7	100	1.00	.000
Interest Rate Risk	2	28.6	1.71	.488	7	100	1.00	.000
Foreign Exchange/ Currency Risk	6	85.7	1.14	.378	7	100	1.00	.000
Performance/ Operational Risk	7	100	1.00	.000	7	100	1.00	.000
Environmental Risk	5	71.4			7	100	1.00	.000
Rate of Return Risk	6	85.7	1.14	.378	7	100	1.00	.000
Shari'a non-compliance Risk	6	85.7	1.14	.378	2	28.6	1.71	.488
Price risk	2	28.6	1.71	.488		100	1.00	.000

**Table 01(b): Level of awareness of respondents as regards various risks:**

SL. NO	Type of Risk	Highly Aware		Only Aware		Neutral		Unaware		Not at all aware		Mean		SD	
		Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
01	Credit Risk/ Investment Risk	100	100									5	5	.00	.00
02	Liquidity Risk	71.45	100	28.6								4.71	5	.488	.00
03	Interest Rate Risk	14.3	100							71.4		1.67	5	1.633	.00
04	Foreign Exchange/ Currency Risk	71.4	100	14.3						14.3		4.29	5	1.496	.00
05	Performance/ Operational Risk	71.4	100	14.3						14.3		4.29	5	1.496	.00
06	Environmental Risk	42.9	100	42.9						14.3		4.00	5	1.212	.00
07	Rate of Return Risk	42.9	100	42.9						14.3		4.00	5	1.212	.00
08	Shari'a non-compliance Risk	42.9		57.1						28.6		1.00	1.86	.535	1.46
09	Price Risk	14.3	100							71.4		1.67	5	1.633	.00
10	Average														

**Table 2:** Concernedness of the respondents regarding various types of risks

SL. NO	Type of Risk	Highly Concerned		Only Concerned		Neutral		Not Concerned		Not at all Concerned		Mean		SD	
		Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
01	Credit Risk/Investment Risk	100	100									5	5	1.134	.000
02	Liquidity Risk	71.4	71.4	28.6	28.6							4.71	4.71	1.464	.488
03	Interest Rate Risk		100	14.3				14.3		71.4		1.57	5	.787	.000
04	Foreign Exchange/ Currency Risk	14.3	28.6	28.6	42.9	57.1	28.6					4.14	4	1.496	.816
05	Performance/ Operational Risk		28.6	71.4			71.4			28.6		3.57	3.57	.787	.976
06	Environmental Risk	71.4	28.6	14.3	71.4					14.3		3.14	4.29	1.464	.488
07	Rate of Return Risk	71.4	57.1	14.3	28.6	14.3	14.3					4.29	4.43	1.496	.787
08	Shari'a non-compliance Risk		28.6		71.4	14.3				57.1		4.57	2.14	.787	1.954
09	Price Risk		28.6		71.4							1.40	4.29	.894	.488

**Table 3(a):** Awareness of the respondents of the risk identification techniques and measurement level

	Islamic	%	mean	SD	Conventional	%	Mean	SD
Inspection by the bank risk manager	7	100	1.00	.00	7	100	1.00	.000
Audits or physical inspection	7	100	1.00	.00	7	100	1.00	.000
Financial statement analysis	7	100	1.00	.00	7	100	1.00	.000
Risk survey	1	14.3	1.86	.378	2	28.6	1.71	.488
Process analysis	1	14.3	1.14	.378	7	100	1.00	.000
SWOT analysis	6	85.7	1.57	.535	7	100	1.00	.000
Inspection by outside expert	3	42.9	1.86	.378	7	100	1.00	.000
Benchmarking		14.3	1.29	.488	2	28.6	1.71	.488
Scenario analysis	5	71.4	.57	.535	7	100	1.00	.000
Internal communication	3	42.9	.57	.535	7	100	1.00	.000

**Table 3(b):** Level of awareness of risk identification techniques

Type of Risk	Highly Aware		Only Aware		Neutral		Unaware		Not at all aware		Mean		SD	
	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
Inspection by the bank risk manager	100	100									5	5	.000	.000
Audits or physical inspection	100	100									5	5	.000	.000
Financial statement analysis	100	100									5	5	.000	.000
Risk survey	14.3	28.6				14.3			71.4	57.11	2.00	2.43	1.63	1.402
Process analysis		28.6	14.3	14.3					71.4	57.1	2.08	2.57	1.706	1.488
SWOT analysis	71.4	28.6	14.3	71.4					14.3		4.29	4.29	1.069	.488
Inspection by outside expert	28.6	28.6	14.3	57.1					57.1		3.38	4.33	1.710	.516
Benchmarking	14.3	28.6							71.4	28.6	2.20	3.00	1.932	2.309
Scenario analysis	28.6	28.6	42.9		14.3	28.6			28.6	42.9	3.07	2.71	1.730	1.799
Internal communication	14.3		14.3		14.3	42.9			42.9	28.6	2.36	2.20	1.433	1.043

**Table 4(a):** Use of risk management techniques

	Islamic	%	Mean	SD	Conventional	%	Mean	SD
Credit Ratings	7	100	1.00	.000	7	100	1.00	.000
Gap Analysis	5	71.4	1.29	.488	5	71.4	1.29	.488
Scenario Analysis	5	71.4	1.29	.4888	7	100	1.00	.000
Duration Analysis	6	85.7	1.14	.378	2	28.6	1.71	.488
Maturity Matching	3	42.9	1.71	.488	7	100	1.00	.488
Earning at risk	2	28.6	1.29	.488	2	28.6		.000
Value at risk	5	71.4	2.00	.000	7	100	1.00	.000
Simulation techniques	4		1.29	.488	7	100	2.00	.000
Stress testing	5	71.4	2.00	.000	5	71	1.29	.488
Risk adjusted return on capital	1	14.38	1.29	.488	7	100	1.00	.000
Internal Based rating system	7	100	1.86	.378	7	100	1.29	.488
Credit Scoring	6	85.7	2.00	.000	7	100	1.00	.000
Credit committees	6	85.7	1.14	1.14	7	100	1.00	.000



**Table 4(b):** Frequency of use risk management techniques

SL. NO	Type of Risk	Mostly Used		Frequently Used		Neutral		Rarely Used		Not at all used		Mean		SD	
		Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
01	Credit	71.4	25.5	28.6	71.4							4.71	4.29	.488	.488
02	Gap Analysis	14.3	14.3	57.1			57.1			28.6	28.6	3.29	2.71	1.604	1.380
03	Scenario	42.9	28.6	42.9			28.6		42.9	14.3		4.00	3.14	1.414	1.385
04	Duration	71.1	28.6						28.6	28.6	42.4	3.86	2.43	1.452	1.813
05	Maturity	71.3	28.6	14.3					42.6	14.3	28.6	4.29	2.57	1.496	1.718
06	Earning at	14.3	28.6	14.3						71.4	71.4	2.00	2.14	1.732	1.452
07	Value at risk		28.6	71.4						28.6	14.3	3.14	3.67	1.464	2.306
08	Simulation		28.6							100	71.4	1.00	1.57	.00	.976
09	Stress testing	71.4					71.4			28.6	28.6	3.86	2.43	1.452	.976
10	Risk adjusted	14.3	28.6				71.4			85.7		4.29	3.57	1.496	.976
11	Internal		57.1				42.9			100		2.00	4.14	1.732	1.069
12	Credit	85.7	100							14.3		3.14	5.00	1.464	.000
13	Credit	85.7	71.4		28.6					14.3		4.43	4.71	1.512	.488

**Table 5(a):** Risk mitigation approaches

Approach	Islamic	%	Mean	SD	Conventional	%	mean	SD
Risk may be avoided	6	85.7	1.14	.378	2	28.6	1.71	.488
Risk may be retained	2	28.6	1.71	.488	7	100	2.00	.00
Risk may be transferred	3	42.9	1.57	.535	7	100	2.00	.00
Risk may be shared	3	42.9	1.57	.535	7	100	2.00	.00
Risk may be reduced	7	100	1.00	.000	7	100	1.00	.00

**Table 5(b): level of acceptance of various risk mitigation approaches**

SL. NO	Type of Risk	Highly agreed		Only agreed		Neutral		Disagreed		Highly Disagreed		Mean		SD	
		Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
01	Risk may be	14.3	28.6	14.3						71.4	71.4	3.71	2.14	1.234	1.452
02	Risk may be	14.3		14.3					28.6	71.4	71.4	2.00	1.29	1.732	.488
03	Risk may be	42.4							28.6	57.1	71.4	2.71	1.29	2.138	.488
04	Risk may be	28.6								71.4	100	2.14	1.00	1.432	.000
05	Risk may be	71.6		14.3						14.3	100	4.29	5.00	1.496	.000

**Table 6(a): Awareness of respondents about risk mitigation techniques**

	Islamic	%	Mean	SD	Conventional	%	Mean	SD
Collateral Arrangement	7	100	1.00	.000	7	100	1.00	.000
Third party enhancement	6	85.7	1.14	.378	5	71.4	1.29	.428
Loan loss reserves	5	71.4	1.29	.488	7	100		
On balance sheet netting	4	42.9	1.57	.535	5	71.4	1.00	
Guarantees	7	100	1.00	.000	7	100	1.29	.000
Parallel contracts	2	28.6	1.71	.488	7	100	1.00	.488
Over the Counter derivatives	6	85.7	2.00	.000	7	100	2.00	.000

**Table 6(b): Level of using specific risk mitigation techniques**

SL. NO	Type of Risk	Highly used		Only used		Neutral		Not- used		Not at all used		Mean		SD	
		Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
01	Collateral Arrangement	85.7	100	14.3								4.86	5.00	.378	.00
02	Third party enhancement	57.1	28.6	28.6	71.4					14.3		4.14	4.29	1.464	.488
03	Loan loss reserves	71.4	28.6		71.4					28.6		3.86	3.29	1.452	.488
04	On balance sheet netting	28.6		14.3			100			57.1		2.57	3.00	1.488	.000
05	Guarantees	100					100					5.00	5.00	.00	.000
06	Parallel contracts	28.6					100			71.4		1.86	1.86	1.145	1.464
07	Over the Counter derivatives	14.3					28.6			85.7	71.4	1.86	1.86		1.464

**Table 7: Attitude of Management towards risk management practices**

SL. NO	Type of Risk	Highly Positive		Only Positive		Neutral		Negative		Highly Negative		Mean		SD	
		Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional	Islamic	conventional
01	Credit Risk	100	100									5.00	5.00	.000	.000
02	Liquidity Risk	100	57.1		14.3						28.6	5.00	3.71	.000	1.84
03	Interest Rate Risk	14.3	28.6	14.3	28.6		14.3			71.4	28.6	2.00	3.29	1.732	1.764
04	Foreign Exchange	42.6	28.6	57.1	42.4		28.6					4.13	4.00	.535	.816
05	Performance Risk	85.7	28.6			14.3	57.1					4.71	3.67	.756	1.033

**Table 8:** Problems in risk management

Sl. No	Specific Problem	Frequency of the respondents	%
01	Lack of market information	3	23.08%
02	Capital inadequacy	2	15.38%
03	Poor loan recovery	4	30.77%
04	Improper Credit identification and rating	2	15.38%
05	Short term guideline from BB	2	15.38%
06	Weak liquidity management	2	15.38%
07	Poor Loan monitoring	2	15.38%
08	Lack of qualified and experienced personnel	7	50.00%