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Acknowledgements

“First, we would like to thank and praise Almighty Allah for giving us the strength, power, vision and resolve with the help of which we were able to complete our work on time. We would like to thank our course teacher Anatoli Bourmistrov and our supervisor Konstantin Yurievich Timochenko for their continuous help and support. Further, we would also like to express our deepest gratitude to our family and friends who have been a continuous source of motivation for us throughout this whole process without them it would not be possible. And finally, special thanks to the managers of Meezan Bank and Askari Bank for giving their valuable time and information.”

Abstract

Purpose

The purpose of this research study is to figure out the differences in rules/regulations and practices regarding risk management in Islamic and conventional banks in Pakistan.

Methodology

Keeping in view the research questions, the nature of this research is a qualitative case study. We have conducted our research in Pakistan by selecting one conventional and one Islamic bank. Our study is based on semi structured interviews considering the exploratory and descriptive style of our study. In this study, two types of data were used to collect the information, Primary and Secondary data. Primary data was collected in the form of one to one interviews conducted by the researcher whereas secondary data which is used are books, articles, and electronic sources. The interview guide is structured in accordance with descriptive styled questions to get our desired results with detailed explanation in the available time frame.

Findings

The findings of the study reveal that there exists a substantial difference between Islamic and conventional banks in risk management practices, risk identification, liquidity risk analysis and risk governance. Islamic bank is performing competently in liquidity risk analysis, whereas, conventional bank is competent in risk management practice, risk identification, and risk governance. The risk management, risk monitoring and reporting, and liquidity risk analysis are weak in Islamic banks. Whereas, risk analysis and assessment are weak in conventional banks. Due to lack of risk management trainings and limited knowledge of risk management practices, understanding of risk management practices is weak in Islamic bank. The study also reveals that in terms of rules and regulations, there is no proper institutionalization of Islamic institutions regarding risk management as compared to conventional banking where the risk management practices are institutionalized by Basel Committee on Banking Supervision.

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Chapter 1. Introduction

1.1 Background and Motivation

Financial institutions have an imperious responsibility to perform in the economy by acting as intermediaries between the surplus and deficit units, making them mediators for efficient allocation of resources in the contemporary economy (Owais Shafique, 2013). The robustness of the financial institutions is of vital importance as experienced during the US financial crisis of 2008. The stability of the entire economy is affected by a crumple of the financial institutions, as a result risk management system is obligatory to keep the financial institutions secure (Owais Shafique, 2013). During the past couple of decades, substantial revolutions have taken place in the banking sector across the world. These transformations have distinctly affected the tasks of banking operations and competition environment in the banking industry. Several bank-specific, industry-specific, financial, and macroeconomic factors have meaningfully contributed to banking performance and structure (Abdul Rashid, 2016).

The role of banking sector remains vital in providing finance to both consumers and business firms despite being heavily criticized due to the recent financial crisis. A profitable and healthy banking sector can offer better protection against negative shocks, helps to strengthen, stabilize the financial system, and improves the probability of effective modernization (Abdul Rashid, 2016). In contrast, risky and unprofitable banking triggers financial instability and negatively affects the economic growth as well. So, a well-functioning banking sector is not only important for the process of enhancing economic interaction between diverse segments of the market but also to achieve both operational and allocational efficiency (Abdul Rashid, 2016).

Banks play an important role in the economic development of the country and if banking crises occur they increase the probability of financial crises as well. Because of the global financial crises of 2008/09, the banking sector was greatly affected as a handful of banks went bankrupt, some were forced into mergers, and others had to be bailed out by the government. Many investors lost part or all their investments in these banks. The spread of financial crises worldwide raised questions about the effectiveness of risk management practices used by banks and this risk management failure is considered as one of the main causes of the global financial crises (Hameeda Abu Hussain, 2012).

All of this has led to a growing awareness and demand for proper risk management techniques and structures within the banking sector. The focus of risk management lies primarily on management and measurement of specific risks including credit risk, liquidity risk, and market risk whereas issue lies in the integration of these risks. In addition, public policy makers around the world have started to question the role and profile of risk management in financial institutions (Vincent Aebi, 2011). So, of a lot of importance has been given to the implementation of systematic risk management in banks so that in future such huge scale of financial crises can be averted. Risk management is a continuous process that is dependent on the internal and external environment of banks. These environmental changes require continuous attention for identification of risk and risk control as not all banks use suitable risk management and measurement techniques effectively (Hameeda Abu Hussain, 2012).

A revised rulebook Basel III was developed to take certain actions to reinforce the resilience of the banking sector because of the 2007-2009 financial crises. This framework vastly emphasizes on credit risk, liquidity risk, and market risk under ordinary and stressed circumstances (Basel Committee on Banking Supervision BCBS, 2009). To sustain a minimum level of capital it has been made compulsory for banks to cover up losses and continue operating activities as a going concern because banks had to endure losses far beyond their minimum capital requirements throughout the financial crisis of 2008 (Basel Committee on Banking Supervision BCBS, 2009).

In Pakistan two types of banking systems are operating in the banking sector. One is conventional banking system which is used all over the world. The other is Islamic banking which is a relatively new concept in banking industry and has gained popularity among the Islamic countries of the world as evident from its growth rate which is higher than conventional banking.

The recent financial crises have not only shed some reservations on the appropriate functioning of conventional banking but has also increased the attention on Islamic banking as some observers have about their better performance during the crises (Thorsten Beck, 2012). Islamic banking has established presence in pointed more than 60 countries in the world (Ghiath Shabsigh, 2017). The concept of Islamic banking revolves around Mudarba (profit and loss sharing) and Musharka (joint venture). Unlike conventional banks which operate on the concept of borrowing and lending with predefined interest rates, Islamic banks are funded by current accounts that do not have interest or by profit sharing investment accounts where account holder gets a return that is determined by the profitability of the banks. All the investments in Islamic banking are done in halal businesses (Ghiath Shabsigh, 2017).

State Bank of Pakistan SBP plays an important part in encouraging Islamic banking in Pakistan in line with Shariah and regulatory framework established by the State Bank. According to state bank, three types of Islamic banking institutions including full-fledged Islamic banks, Islamic bank subsidiaries of conventional banks, and standalone Islamic banking branches of conventional bank can offer Islamic banking services in Pakistan (Abdul Rashid, 2016). The SBP has allowed Islamic banks to operate in line with the conventional banks, with a principal objective to provide diversified banking opportunities to build a stable and sound financial system boosting the economic development prospects through Shariah compliant financial operations (Abdul Rashid, 2016).

1.2 Problem Statement

Keeping in view the above background and motivation for our study, our problem statement is:

"What are the differences in the regulations and practices of risk management in Islamic and conventional banks in Pakistan"

1.3 Research Questions

1. What are the rules/regulations regarding risk management in conventional and Islamic bank?

2. How are risk management practices being implemented in conventional and Islamic bank?

3. What problems does the bank faces while implementing risk management?

4. What are the types of risks to which banks are exposed?

1.4 Aims and Objectives of the Study

1. To know how risk management practices are being implemented in Islamic and conventional banks in Pakistan.
2. To know the specific rules and regulations regarding risk management practices of conventional and Islamic banks.
3. To know what kind of risks are associated with both banking systems.

1.5 Research Outline

The purpose of this study is to identify the differences in rules/regulations and practices regarding risk management in Islamic and conventional banks. The nature of this study would be qualitative in nature. We will conduct our research in Pakistan by selecting one conventional and one Islamic bank. This research would contribute to the field of risk management in the sense that we would integrate practical, empirical, and theoretical issues related to risk management. The study will contribute to cross fertilization of risk management in both banking systems. The study would attempt to highlight the main differences in implementing risk management between Islamic and conventional banks. The study would also attempt to provide the main differences and similarities in the rules and regulations regarding risk management in both banking systems.

Chapter 2. Theoretical Framework

The theoretical perspective of this research relates to the concept of risk management, institutional theory, stakeholder theory, and agency theory. The concepts of risk management include effective risk management and operational risk management. The main theory around upon which our study is based is the risk management theory. It includes the concepts of risk, types of risk, risk management process, key dimensions of risk, and effective risk management approach (Spikin, 2013). Also, one important aspect of risk management theory includes operational risk management (Girling, 2013). The research questions have been developed by keeping in view the conceptual framework of the above-mentioned theories.

2.1 Institutional Theory

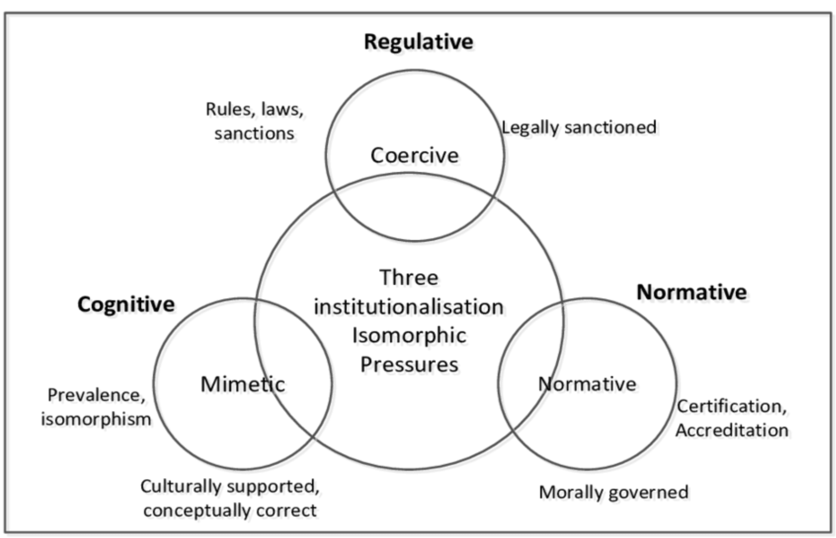
Institutional theory is a theoretical framework for investigating organizational phenomena, which views the social world built around institutions including rules, structures, and practices that set conditions on action. Institutions are essential in explaining the social world as they are built into the social order, directing the flow of social life. Institutions are positioned within definite social conditions and context providing cognitive framework for social actors (Donsbach, 2008). Institutionalization states:

"the process through which components of formal structure become widely accepted, as both appropriate and necessary, and serve to legitimate organizations (Zucker, 1983)***."***

So, institutional theory can be used because it focuses on rules and regulations imposed by the concerned authorities mainly the government, as in our study we will study the rules and regulations regarding risk management in Islamic and conventional banks. Several studies use the institutional theory in explaining the method of implementation of risk management. They suggest that institutionalization prevails when the risk management activities in institutions becomes highly homogeneous. This homogeneity can be attained through the forced isomorphic mechanism by which political, legitimacy, and regulatory pressures are imposed on firms in the forms of persuasion, direction, or invitation (Powell, 1983).

Institutions control economic activities by laying out the rules and regulations as the basis for production, distribution, and exchange. Therefore, it is crucial for companies to follow established regulations, norms, and belief systems to gain legitimacy and mobilize their social, economic, and political resources to adapt to the institutional environments for increased firm performance (Zhilin Yang, 2014). Through several mechanisms institutional environments can influence organizations decision making. This results in organization's strategic response designed at dealing with the institutional pressure which they might face in the business environment. Understanding institutional environments can guide firms when they compete in the market (Zhilin Yang, 2014). Institutional isomorphism is a procedure in which organizations try to surpass in their practice of social rules and ideals by aligning themselves with the environmental circumstances. These institutional pressures thrust organizations to adopt shared routines and notions (Azadeh Pishdad, 2012). So, the understanding of intention to adopt technology and the principal context of the organization is affected. Three isomorphic mechanisms which stimulate organizations in acquiring operational efficiency include coercive-constraining, normative-learning, and mimetic-cloning (Azadeh Pishdad, 2012). Three institutional views representing theses isomorphic pressures which are not mutually exclusive and might be interdependent include regulative, cultural-cognitive, and normative views (Azadeh Pishdad, 2012).

For instance, organizational actors may interpret, negotiate, and socially construct the meaning of rules and regulations based on normative and cultural-cognitive considerations which are convenient in explaining the diffusion of technology innovation (Azadeh Pishdad, 2012). The coercive isomorphism transpires by organizational desire to follow rules, laws, and sanctions established by institutional actors. This similarity results in acquiring external validation and legitimacy that advances the organization's access to resources (Azadeh Pishdad, 2012). The normative mechanism generally concerns the pragmatic and moral aspect of legitimacy by evaluating whether the organization plays its role appropriately and in a required method. It can point to the positive pursuit of valued ends, as well as negative deviations from standards and goals (Azadeh Pishdad, 2012). The mimetic isomorphism is based on organizational inclination to remain neutral to its peers to get a constructive evaluation from the organizational environment. The consequences of this mechanism include reduced uncertainty, improved predictability, and benchmarking organizations which are performing at or near their optimum level (Azadeh Pishdad, 2012). The figure below reveals these three institutional isomorphic mechanisms and the concepts related to them respectively (Ahmad Raza Bilal, 2013).



Institutional Isomorphism Mechanisms/ Pressures (Azadeh Pishdad, 2012)**.**

Moreover, even if organization itself is an institution, it involves of a variety of sub institutions. The mutual interactions of these institutional pressures not only state technology implementation/ assimilation, but also have effect on institutionalization of technology through the process of institutional isomorphism (Azadeh Pishdad, 2012).

2.2 Stakeholder Theory

Stakeholder theory focuses on the symmetry of stakeholder's interests as the principal determinant of the corporate policy (Freeman, 1984). In specific businesses, mainly services and high-tech industries, customer trust on firms is very vital to carry on offering their services in the future and can considerably contribute to firm's value. Conversely, the value of such implied privileges is very sensitive to estimated costs of bankruptcy and financial distress (Klimczak, 2007).
So, the above mentioned discussion indicates that risk management can be observed in banking sector: to align the interests of managers with their shareholders interest, to lower the probability of financial distress, business failures or bankruptcy, to fulfil the regularity requirements, to reduce expected tax payments of the bank, , to help the banking business organization in developing financial plans and investment activities, to safeguard specific investments of the organization, and to maximize the shareholder's wealth.

2.3 Agency Theory

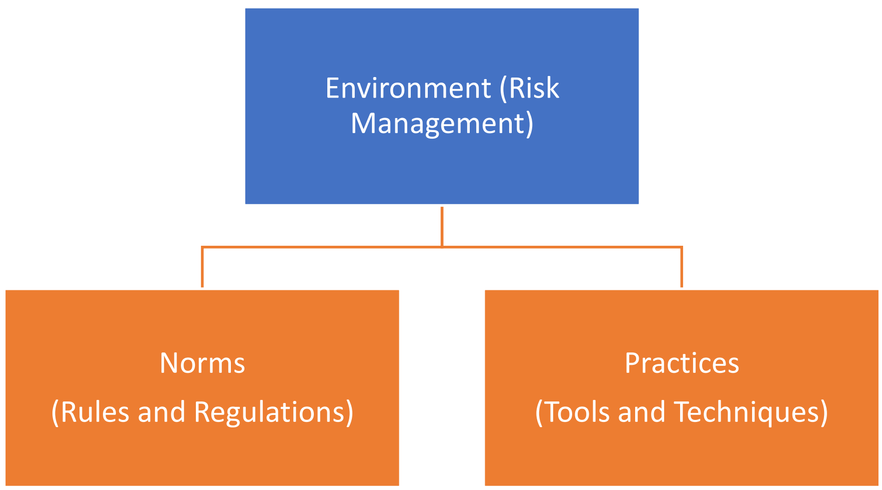
Agency theory can be implemented in our study as banks act as agents and individuals as principles. The agency relationship can be defined as (Meckling, 1976):

"a contract under which one or more persons the principal engages another person the agent to perform some service on their behalf which involves delegating some decision-making authority to the agent (Meckling, 1976)***."***

Agency theory is about separation of ownership and control. In corporate risk management, agency issues have been shown to influence managerial attitudes toward risk taking and hedging. There is also a probable mismatch of interest between shareholders, management and debt holders owing to asymmetries in earning distribution. This can result in the firm taking too much risk or not engaging in positive net value projects (Meckling, 1976).

Chapter 3. Conceptual Model

Our conceptual framework for this study mainly revolves around the institutional theory and our model is developed based on institutional theory and aspects of institutional isomorphism mechanism.



"Conceptual model of our study inspired from institutional theory"

Based on this model we would first look at the rules and regulations of State bank of Pakistan, Basel accord regulation, international regulations, and institutional SOP's regarding risk management in conventional and Islamic banks of Pakistan. Then we would look at the risk management practices including risk management process, risk management strategies, and tools/techniques used for managing risks.

Chapter 4. Literature Review

In this literature review, several concepts are discussed regarding risk, risk management, risk management process, operational risk management, enterprise risk management, and types of risk associated with banking sector. First, a definition of risk is given and the significance of managing risks is discussed. Then, two different approaches towards risk management are discussed including operational risk management and enterprise risk management. Additionally, a theoretical explanation is given about how enterprise risk management could enhance performance. Then prior research on the concerned topic has been discussed including the findings of different researchers related to risk management practices and regulations in Islamic and conventional banks.

4.1 Risk

The word 'risk' has become a common phenomenon in all areas of life such as personal situations including health, insurance, pensions, investments, etc., social aspects including economic performance, terrorism, food safety, etc. and business aspects including business strategies, corporate governance, business continuity, etc. (Spikin, 2013). Many of the institutions that humanity has built could be viewed to address risk. Therefore, it seems that the human wisdom has can identify patterns for uncertainty and develop certain method/processes to comfort it. So, not only is risk everywhere, but so is risk management. Just as the existence of risk is recognized and acknowledged as unavoidable and inevitable in every field of human endeavor, there is a corresponding drive to address risk as much as possible (Spikin, 2013).

Risk has been defined in many ways. The literal meaning of risk is the chance of injury, damage, or loss. We can simply define risk as the effect of uncertainty on objectives (Airmic, Alarm, IRM, 2010). Risk can also be defined as the inconsistency of returns associated with a asset (Owais Shafique, 2013). Organizations need to establish proper definitions for the different levels of consequences and likelihood associated with different risks. Risk can be ranked quantitatively, semi-quantitatively or qualitatively in terms of the possible consequences or impact and the likelihood of occurrence (Airmic, Alarm, IRM, 2010).

A significant part of analyzing a risk includes the determination of the nature, source, or type of impact of the risk. Evaluation of risks can be improved by implementing risk classification system. Risk classification systems enable an organization to identify similar risks. A risk classification system enables organization to classify which strategies, operations, and tactics are most exposed to risk. Risk classification systems are generally based on the division of risks into financial control, reputational exposure, operational efficiency, and commercial activities. But, there is no risk classification system that is universally applicable to all sorts of organizations (Airmic, Alarm, IRM, 2010).

4.2 Risk Management

Risk management is a dominant part of the strategic management of any organization. It is the process in which organizations methodically address the risks attached to their respective activities. An effective risk management initiative should be equivalent to the level of risk in the organization, aligned with corporate activities, embedded into routine activities, and dynamic to changing circumstances (Airmic, Alarm, IRM, 2010). The emphasis of risk management is towards the assessment of substantial risks and the implementation of appropriate risk responses. Furthermore, risk management boosts the understanding of the probable upside and downside of the factors that can affect an organization. It also increases the likelihood of success and reduces both the probability of failure including the level of uncertainty linked with achieving the goals and objectives of the organisation (Airmic, Alarm, IRM, 2010).

4.3 Risk Management Process

The risk management process is composed of at least of five stages which include determining the objectives, identifying the risks, evaluating the risks, considering alternative, selecting the risk treatment devices, and the implementing and reviewing stage (Spikin, 2013). Objectives can vary depending upon the type of the organization. It could be maintaining organizations position or survival in a specific sector. The identification stage is usually performed by using several instruments such us internal records of the organization, analysis of financial statements, risk analysis questionnaires, insurance policy checklist, flow process charts, and inspection of the firm's operations among other things (Spikin, 2013). The evaluation step includes measuring the potential size of the loss and the probability that certain events would occur. This classifies the risks in a certain order of priorities which provides a certain ranking. The basic strategies which most companies adopt regarding risk management are risk avoidance, risk reduction, risk retention, and risk transfer. In the implementing stage, decisions that were made in the prior phase must be implemented. The final stage of the process of risk management is about evaluating and reviewing the risk management program. It also includes establishing check and balance procedures to make sure that the goals and objectives of the risk management are accomplished (Spikin, 2013).

4.4 Operational Risk Management

Operational risks thrive in every sector of the economy. Operational risks are found in the health sector, transportation sector, energy sector, banking sector, education sector, etc. Some sectors, because of heightened sensitivity to risks or government regulations, have implemented advanced processes for identifying the risks specific to their activities (Raanan, 2010). According to Basel Committee Operational risk can be defined as:

"*the risk of registering losses or of not making the estimated profits, which is determined by the internal factors including inadequate development of internal activities, inadequate staff, or systems etc. Or the external factors including economic conditions, changes in the banking environment, technological progress etc.* (Timeea Maria Dumescu, 2012)***"***

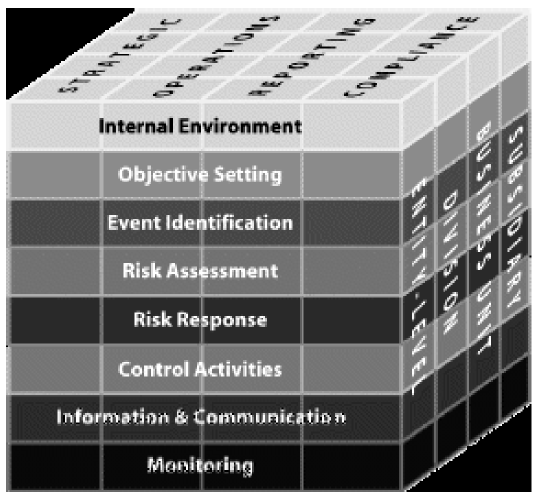
Basel II framework for operational risk management states that a bank should develop a framework for managing operational risk and evaluate the suitability of capital. This framework should cover the bank's tolerance for operational risk, as specified by the policies for handling this risk. It also includes the way and extent through which operational risk is transferred outside the bank. The policies outlining the bank's approach to identifying, monitoring, assessing, and controlling the risk (Girling, 2013). The following types of events lie at the basis of operational risk specific to banking activities: ***Internal fraud*** like theft, dishonest reporting of positions, closures of transactions for private use made by the employees; ***External fraud*** like robbery, falsification; ***Conditions required for hiring staff and job safety*** like staff's compensatory requests, promotion of some discriminating practices, non-observance of work safety standards; ***Deficient practices related to customers, products and activities*** like inadequate use of confidential information about customers, sale of unauthorized products, money laundering, deficient use by customers of products and services of electronic banking; ***Jeopardizing of tangible assets*** like acts of terrorism or vandalism, earthquakes, fires; ***Activity interruption and deficient work of systems*** like flaws of hardware and software components, deficient planning, problems related to telecommunications, maintenance and implementation of the electronic banking system; ***Execution, delivery and management of process-treatment applied to customers and commercial counterparties, as well as deficient processing of data related to them*** like wrong registration of input data, incomplete legal documentation, deficient management of real warranties, unauthorized access to clients' accounts; ***The security of the electronic banking system*** like engagements of the credit institution coming out in false pretenses by fabricating the electronic money or getting extra losses or engagements by the customers in case of a defective access in the system (Timeea Maria Dumescu, 2012).

4.5 Effective Risk Management

Enterprise risk management suggests a solution to the complications to which traditional risk management is exposed by focusing on operational and strategic risks. This approach handles risks in a synchronized way where the residual risk is hedged by putting together risks in a portfolio (Geessink, 2012). This portfolio approach will decrease risk, when the contemporary portfolio theory is applied. The theory assumes that a portfolio with different assets can absorb extreme directions (Geessink, 2012). This means that when one asset moves in a negative direction, this will be absorbed by an asset which moves in a positive direction which in turn decreases the risk of a portfolio. It also increases efficiency by hedging the real risk (Geessink, 2012). ERM has become an important requirement for the sustenance of financial stability of both national and international banking institutions. The present ERM concept includes the approach where all the risks are evaluated and managed holistically in line with the objectives of the bank (Okehi, 2014). Effective risk management ERM is about establishing control, discipline, and oversight to drive continuous improvement of an organizations risk management competences in a dynamic operating environment. It helps in advancing the maturity of organizations abilities around managing its risks priority (Protiviti Independent Risk Consulting, 2006). COSO defines ERM as: ***"a process, effected by an entity's board of directors, management, and other personnel, applied in strategy-setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives*** (Protiviti Independent Risk Consulting, 2006)***."***

ERM is a management process that requires a firm's management to identify and evaluate the collective risks that affect value of the firm and apply an enterprise-wide strategy to manage those risks to establish an effective risk management strategy (Okehi, 2014).

To provide companies a guideline in how to implement enterprise risk management ERM, COSO developed a framework in 2004 called the Enterprise Risk Management Integrated Framework. This framework was an extension of the initial framework introduced by COSO in the year 1994 and is shown in figure below (Geessink, 2012).



COSO ERM - Integrated Framework (COSO, 2004)

The goal of ERM is to help to achieve an organization's objectives. These objectives include strategic, operations, reporting and compliance. The strategic objectives should help the company to achieve its mission. These objectives should be achieved using resources effectively and efficiently, to enhance the company's value (Geessink, 2012). To prove its value to the stakeholders every company should have reliable reporting and comply with relevant laws and regulations. These four objectives are overlapping, which shows the integrated approach of risks by this framework (Geessink, 2012). The four levels on the right side of the cube demonstrate the levels in which ERM should be present. The eight ERM components listed at the front of the cube, display what is needed to achieve these objectives. This framework offers prospects for companies to answer to their risks in alignment with their corporate strategy (Geessink, 2012). Even though banks face mainly financial risks, it could help them by integrating all these risks into one portfolio, instead of circumventing each different class. This can help to solve probable inefficiencies in risk management implementation (Geessink, 2012).

4.6 Types of Risk

Credit and liquidity risks are considered the prime reason for bank failures in commercial banks (Owais Shafique, 2013). The five main types of risk inherent in banks include (Okehi, 2014):

1. **Credit Risk:** Credit risk is the risk of loss resulting from an entity's inability to meet its obligation. It may arise from either an inability or an unwillingness to perform in the pre-committed contracted manner. The core activity in a bank involves the acceptance of deposit and providing credits which exposes them to credit risk. Credit risk is the major risk faced by banks and the effective management of this risk helps in improving the performance of banks (Okehi, 2014).
2. **Liquidity Risk:** Liquidity is the ability of a bank to meet its short-term obligations as they become due, without incurring unacceptable losses. The issue with banking operations is that they convert short-term deposits into long term loans which makes them inherently vulnerable to liquidity risk. So, there is always a possibility that over a certain period, the bank would not be able to settle its obligations in short-term (Okehi, 2014).
3. **Market Risk:** Market risk is the risk arising from fluctuations of financial assets prices. Market risk is defined as the risk of losses in on and off-balance sheet positions emerging from movements in market prices. The importance of market risk has been recognized in the new Capital Accord pronounced by the Basel Committee in 1999 recognizing any market related factor that affects the portfolio or value of instruments (Okehi, 2014).
4. **Operational Risk:** Operational risk is the risk of monetary losses resulting from inadequate or failed internal processes, systems, human error, and external events. This risk mainly encompasses of human error in banking operation, system failures, financial fraud and damage to physical assets from natural disasters that could cause losses to banks and probably lead to their failure (Okehi, 2014).
5. **Solvency Risk:** Solvency risk is related to the long-term survival of the bank. To absorb future losses when they occur banks should maintain sufficient reserves and provisions

through efficient operations. Where these reserves and provisions fail, equity capital stands in to protect the Bank from bankruptcy. This risk mainly arises because of inefficient management and inherent risks (Okehi, 2014).

4.7 State Bank of Pakistan Guidelines

The State Bank of Pakistan has outlined a risk management framework which must be followed by all the operating banks in Pakistan. This framework encompasses the scope of risks to be managed, the process and procedures to manage risk, and the roles and responsibilities of individuals involved in risk management. An effective risk management framework includes (State Bank of Pakistan, 2009):

1. Clearly defined risk management policies and procedures covering risk identification, measurement, acceptance, reporting, monitoring, and control (State Bank of Pakistan, 2009).

2. A well constituted organizational structure defining clearly roles and responsibilities of individuals involved in risk taking as well as managing it. Banks, in addition to risk management functions for various risk categories may institute a setup that supervises overall risk management at the bank. Such a setup could be in the form of a separate department or bank's Risk Management Committee RMC could perform such function. The structure should be such that ensures effective monitoring and control over risks being taken. The individuals responsible for review function including risk review, internal audit, compliance etc. should be independent from risk taking units and report directly to board or senior management who are also not involved in risk taking (State Bank of Pakistan, 2009).

3. There should be an effective management information system that warrants flow of information from operational level to top management and a system to address any exceptions observed (State Bank of Pakistan, 2009).

4. The framework should have a mechanism to ensure an ongoing review of systems, policies and procedures for risk management and procedure to adopt changes (State Bank of Pakistan, 2009).

4.8 Basel III Guidelines

The Basel III accord includes the liquidity portion of the Basel Committee's reforms to strengthen global capital and liquidity regulations with the objective of encouraging a more resilient banking sector. The objective of the reforms includes improving the banking sector's capability to absorb shocks rising from situations of economic and financial stress, hence reducing the risk of spillover from the financial sector to real economy. The accord presents the rules, text, and timelines to implement the liquidity portion of the Basel III framework (Basel Committee on Banking Supervision, 2010). During the initial phase of the financial crisis that began in 2007, many banks regardless of having acceptable capital levels still experienced difficulties as they did not manage their liquidity in a careful manner. So, the crisis again shifted the attention towards the importance of liquidity to the proper functioning of financial institutions (Basel Committee on Banking Supervision, 2010).

The complications experienced by various banks were due to lapses in following the basic principles of liquidity risk management. So, The Basel committee has established two standards that have separate but complementary objectives for financial institutions to practice in liquidity risk supervision. These two objectives are (Basel Committee on Banking Supervision, 2010):

1. The first objective includes the promotion of the short-term resilience of liquidity risk profile of banks by warranting that they have enough high-quality liquid assets to survive a substantial stress scenario lasting 30 days. To achieve this objective the committee introduced the Liquidity Coverage Ratio (Basel Committee on Banking Supervision, 2010).
2. The second objective includes the promotion of resilience over a stretched time horizon by generating additional incentives for banks to fund their activities with more stable sources of funding. To achieve this objective the committee introduced the Net Stable Funding Ratio which has a time horizon of one year. This ratio has been developed to seize structural issues to offer a more sustainable maturity structure of assets and liabilities (Basel Committee on Banking Supervision, 2010).

To elevate the resilience of banks to potential liquidity shocks, the standards should be implemented consistently by financial institutions around the world. For this purpose, most of the parameters used in the standards are internationally consistent, with prescribed values. However, some of the parameters contain elements of national discretion to show jurisdiction-specific conditions. In these cases, the parameters should be transparent and clearly outlined in the regulations of each jurisdiction. This provides clarity both within the jurisdiction and internationally (Basel Committee on Banking Supervision, 2010).

4.9 Existing Literature

The initial review of existing literature would help to generate and refine research ideas presented in this study. The available literature in banking field has been dominated by the adoption and design of different risk management frameworks and their implications on banks performance, using different conceptual methodologies and theoretical perspectives. In the new liberalized economy, Banks and regulators have been making sustained efforts to understand and measure the increasing risks they are exposed to. Banks are realizing the importance of different types of risks. Some of the risk banks are exposed to are credit risks, market risks, operational risks, reputational risks, and legal risks (Wolfgang Bauer, 2004). Risk can be defined as an unplanned event with financial consequences resulting in loss or reduced earnings. Risk can also be defined as the volatility of the potential outcome Therefore; a risky proposition is one with potential profit or looming loss. Risk stems from uncertainty or unpredictability of the future (Wolfgang Bauer, 2004). Risk management is the process of assessing risk, taking steps to reduce risk to an acceptable level and maintaining that level of risk. Thus, we can say that after the risks have been identified, risk management attempts to lessen their effects. This is done by applying a range of management techniques (Wolfgang Bauer, 2004).

A study by (Owais Shafique, 2013) explains that banks must integrate market, credit, and operational risk into a single stream of capital measurement to have a complete depiction of their capital resources. This is considered an important component of enterprise risk management system (Owais Shafique, 2013). This helps bank to establish its overall risk profile, determining how much risk it is taking and the level of diversification it can achieve by entering in different business areas. ERM rigors the amount of risk taking and aversive aptitude to warrant the achievement of organization’s goals and objectives (Owais Shafique, 2013). Further study conducted by (Owais Shafique, 2013) suggests that that the types of risks faced by conventional and Islamic banks can be classified under six categories. The research concludes that credit risk, equity investment risk, market risk, liquidity risk, rate of return risk and operational risk management practices in Islamic banks are like the practices in conventional banks (Owais Shafique, 2013). A research conducted by (Ahmad Raza Bilal, 2013) includes the presentation of a framework for risk management mechanism in banks based on the results of their survey conducted in three countries including a sample of 30 banks including conventional as well as Islamic banks (Ahmad Raza Bilal, 2013). The overview of the mechanism includes rules and regulations regarding risk management, sources of risks, and for managing these identified risks the mechanism explains three steps. These steps include risk management process, risk management strategies, and tools to manage risk (Ahmad Raza Bilal, 2013). The first part of framework includes risk management regulations provided by Central bank, Basel accord, Institutional SOP's, and International trade regulations (Ahmad Raza Bilal, 2013). The second part of the framework includes the sources or types of risks associated with the banking sector. These risks include:

1. **Operational risk:** System failure, people failure, and de functioning of corresponding system (Ahmad Raza Bilal, 2013).
2. **Credit risk:** Borrower's inability/intentions to repay, and natural/social/political instability (Ahmad Raza Bilal, 2013).
3. **Liquidity risk:** Macroeconomic changes, funding risk, time risk, and call risk (Ahmad Raza Bilal, 2013).
4. **Counterparty risk:** Interest rate, inflation, higher taxes law & order situation, and energy crises (Ahmad Raza Bilal, 2013).
5. **Foreign exchange risk:** Forex volatility, foreign buyer/bank default, and offshore regulations (Ahmad Raza Bilal, 2013).
6. **Compliance and regulation risk:** Internal regulatory breach, and external regulatory breach (Ahmad Raza Bilal, 2013).
7. **Reputational risk:** Law/regulatory breach, staff misconduct, and adverse publicity (Ahmad Raza Bilal, 2013).
8. **Interest rate risk:** Reprising risk, yield curve risk Basis risk, and optionality (Ahmad Raza Bilal, 2013).

9. **Repayment risk:** Unscheduled deposit call and abnormal rise on floating deposit income (Ahmad Raza Bilal, 2013).
10. **Legal risk:** Legal mistakes, imperfection of legal system, and violation of legal regulations (Ahmad Raza Bilal, 2013).

Then comes the last part of the framework called managing risks. This part consists of three steps. Step one includes risk management process which has following stages (Ahmad Raza Bilal, 2013): Identification of Risk, Understanding Risk, Risk Assessment and Analysis, Risk Monitoring, Credit Risk Analysis, and Risk Management. Step two includes risk management strategies for assets and liabilities: It includes following strategies (Ahmad Raza Bilal, 2013): Exposure Ceiling, Risk Rating Model, Risk Review/Renewal, Portfolio Stratification, Risk Based Scientific Pricing, Transaction Review Mechanism, Sensitivity Analysis /Stress Testing, Effective Audit & RAR, Value at Risk (VAR), Duration (Average of Life) Analysis, Gap Analysis, Maturity Matching Analysis, Vintage Analysis, and Risk Adjusted Rate of Return on Capital (RAROC). Step three which is the final stage includes tools for managing risk. These tools include (Ahmad Raza Bilal, 2013): Contingency funding plans, Cross selling options, Marketable collaterals, Hedging/derivatives/ETFs, Cross currency/exposure, and Swaps structured financial deals.

A study conducted by (Sania Khalid, 2012) reveals that there is a general understanding of risk management practices in Islamic banking throughout Pakistan. The study also explains that risk monitoring RM and understanding risk and risk management URM are most significant and influential variables in risk management practices (Sania Khalid, 2012).

The research also suggests that the Islamic banks are practically efficient in managing risk, which means that Islamic banks of Pakistan need to pay more attention towards RM and URM (Sania Khalid, 2012). The study also suggests that Islamic banking system should focus towards the aspects of risk management especially risk identification and risk assessment and analysis (Sania Khalid, 2012). Based on the study Islamic banks should build up separate risk management department and should employ risk management officers for sustaining risk management department’s operations (Sania Khalid, 2012). Risk management is a foundation for practical banking systems. Islamic banks include many products which do not exist in conventional banks, so they suffer from increasing risks. For this reason, efficient risk management is extremely necessary (Sania Khalid, 2012). Islamic banking embeds the culture and value of Islam and is governed, in addition to the conventional governance and risk management regulations, by the values set forth by Islamic Shariah. Islamic banking not only avoids interest-based transactions which is prohibited in the Islamic Shariah, but also keeps away from immoral practices like investing in haram businesses (Sania Khalid, 2012).

A study by (Ajmi, 2012) identifies three most significant types of risk facing Islamic banks in Bahrain. These risks include credit risk, liquidity risk, and operating risk. The study further explains that Islamic banks are found to be significantly different from conventional banks in terms of understanding risk and risk management (Ajmi, 2012). The level of risks confronted by Islamic banks are found to be higher than those confronted by conventional banks. Likewise, liquidity, residual, country, operational, and settlement risks are found to be higher in Islamic banks than in conventional banks (Ajmi, 2012). Research conducted by (Fauziah Hanim Tafri, 2011) shows that risk management tools and systems for Islamic banking are inadequate, principally in the areas of IT professionals with relevant expertise in process integration and risk and the capability of human capital in the highly technical areas of risk measurement. This infers that more innovations and product developments are required for Islamic banking in managing risks (Fauziah Hanim Tafri, 2011).

The results of a study by (Omar Masood, 2012) show that the Basel Accord is generally well regarded due to its underlying aims of improved capital standards and administration tied with the scientific handling of risk. This is depicted by survey results representing that the Basel Accord is supported by managers with no apparent differences in the level of support between privately and publicly owned banks. In contrast, the level of support and the slow pace of implementation appear due to lack of technical expertise and the level of preparation regarding availability of historical data and IT infrastructure (Omar Masood, 2012).

A study by (Zhilin Yang, 2014) explains that organizational theorists have provided diverse schemes to classify institutional environments depending on the level of analysis. For example, at the macro level including regional or country level, scholars take an extensive view of institutions including political, economic, regulative, cultural-cognitive, and normative institutions. In the case of organizations, there are three distinct aspects including regulative, cultural-cognitive, and normative institutions (Zhilin Yang, 2014). This framework is still conceptually oriented and frequently causes misunderstandings among these aspects. Therefore, scholars have modified the framework and have further developed it with operational measures in numerous disciplines. Indeed, it is desirable to develop a comprehensive, operational scheme that classifies institutional environments in the setting of business markets (Zhilin Yang, 2014).

4.10 Literature Gap

There is huge amount of literature regarding risk management practices in conventional banks and a considerable amount for Islamic banks. But there is very limited literature related to the differences in rules and regulations concerning risk management in both banking systems. So, our study would add to the literature by specifically identifying the differences and similarities in rules/regulations and practices regarding risk management in conventional and Islamic banks. Also, in Pakistan, very limited literature is available regarding risk management practices and regulations in Islamic as well as conventional banks.

Chapter 5. Methodology

Keeping in view the research questions, the nature of this study would be qualitative in nature. It would include one to one interviews with managers and professionals in the relevant field. Qualitative research focuses on description and interpretation and might lead to development of new concepts or theory, or to an evaluation of an organizational process. It generally focuses on reports of experience or on data which cannot be effectively expressed numerically. It takes account of complexity by integrating the real-world context and can take different perspectives on board (Beverley Hancock, 2009).

Qualitative data is all about words and expressions it includes interviews, face to face, focus groups, transcripts, open ended questions, audio, and video recording etc. It can be in the form of primary and secondary sources such as individuals, focus groups, publications, company records and internet. The overwhelming amount of collected data from qualitative research is aimed at making valid conclusion of the subject under consideration. (Bougie, 2010). There are two kinds of fields in social scientific research, Positivism and Hermeneutics. Positivism is the approach in which theories are used in deductive way which leads to generate hypothesis testing. Whereas Hermeneutics approach is based on interpretation and understanding, in which social reality is studied which is an inductive way of research. This dissertation uses Inductive approach of study.

5.1 Data Collection

There are many ways of data collection including experiments, development of models, and case studies. In this dissertation, two types of data were used to collect the information, Primary and Secondary data. Primary data was collected in the form of one to one interviews conducted by the researcher whereas secondary data which is used are books, articles, and electronic sources. Secondary data is used to gather information on the research topic, via different authors and scholars providing the understanding on literature.

Qualitative researchers usually employ semi structured interviews which involve a set of open ended questions based on the topic under consideration. The open-ended nature of the questions posed defines the topic under enquiry and provides opportunities for interviewer and interviewee to discuss them in more detail (Beverley Hancock, 2009). If the interviewee has difficulty answering a question or provides only a short response, the interviewer can encourage the interviewee to consider the question further. The interviewer also has the freedom to probe the interviewee in a semi structured interview to elaborate on an original response or to follow a line of inquiry introduced by the interviewee (Beverley Hancock, 2009).

So, our research would also be based on semi structured interviews considering the exploratory and descriptive style of our study. The interview would be structured in accordance with descriptive styled questions so that we can get our desired results with detailed explanation in the available period. Our research questions include target questions which get directly to the topic under discussion. We will select two banks in Pakistan. One with pure Islamic operations and one conventional bank. This would help us in performing a comparative analysis of both banking systems in Pakistan.

We have developed interview guide which contains the main questions to be asked during the interviews so that we can remain focused on the main topic and get the required results in the specified time of the interview.

5.2 Transcription

Following each interview, we independently transcribed our respective data. Transcription allows for the conversational interaction between two physically present persons to become abstracted and fixed in a written form. This was done to preserve accuracy and to develop better understanding with obtained data. Transcribing the data prevented a gap in time for processing and helped us better prepare for the next phase of research findings. Precise transcribing methods were utilized to maintain accuracy. Any detail that could affect the interpretation of the data was noted and included to get the highest level of accuracy.

Chapter 6. Findings

In this chapter, we discuss the significant points that emerged from our interviews. Data collected within this study includes interview data, observations, field notes, and artifact data. For interviews, appointments were arranged from the Managers of one Islamic bank and one conventional bank in Pakistan to take the interviews. Interviews were recorded and were summarized to include in the findings and will not be published to any other party, to keep ethical consideration as mentioned. Two banks which were interviewed were based in Lahore and Islamabad Pakistan. These banks are Askari Bank Lahore branch a conservational bank and Meezan Bank Islamabad branch an Islamic bank.

For clarification, we have divided the findings in three parts as there were three main questions in the interview guide.

6.1 Interview 1(Islamic Bank)

The first interview was conducted at Islamabad on 19 March 2018 in Meezan Bank which is a pure Islamic Bank meaning they do not provide the services of conventional banks and are based totally on the teachings of Islamic Shariah. The interview was taken from the branch manager and lasted for an hour.

Our first interview was with the General Manager of Meezan Bank in Islamabad, Pakistan. The interview was based on the questions in the interview guide. First the manager gave us a brief overview of the bank and its operations in Pakistan. He told significant information about Islamic interest free banks and offerings. He told that the bank started operations as the first Islamic bank of Pakistan in the year 1997. The reason which influenced Meezan Bank to become the first pure Islamic bank was religious, as Pakistan is an Islamic state with majority of Muslims. So, they differentiated themselves from the other banks operating in the country by offering services based on the teachings of Islamic law and Shariah.

6.1.1 Part I (Risk Management Practices)

Regarding the first question in part 1 **"How many people are there in this department"**, we were told that there are 10 persons in risk management department including the general manager, risk management officer, and other staff.

Regarding the second question **"What are the roles/duties of these individuals"**, we were told that the general duties of individuals in this department include scrutiny of documents, assessments checking scoring, Islamic insurance (Takaful), and risk mitigation.

Regarding the third question **"What are the general practices regarding risk management"**, we were told in detail the general practices regarding risk management in Islamic banking and the tools and techniques involved in it. Mainly we were told about risk management framework, risk reporting, risk disclosure, credit risk management, liquidity risk management, operational risk management, market risk management, risk governance, and risk mitigation.

Risk Management Framework

It includes identifying, assessing, monitoring, and controlling various kinds of risks while maintaining capital adequacy against such type of risks. Risk identification includes the prioritization of risks, analysis of financial statements, internal audits, inspections, and risk surveys. Risk assessment includes the analysis of likelihood of risks, assessment of costs and benefits, and the application of quantitative and qualitative techniques. Risk monitoring includes evaluation of control and risk management, implementation of action plan, and communication and reporting. And finally, risk controlling means development of risk appetite framework, role of board of directors, committees, CEO and CRO, compensation, transparency, and disclosure.

Risk Reporting

It includes generating risk management reports, highlighting areas of concern, change, emerging threats, and opportunities relevant to the banking sector. It also includes the infrastructure for reporting key information, primarily that used by the board and senior management to identify, monitor, and manage risks.

Risk Disclosure

Risk disclosure information assists the management to achieve their responsibilities of over sighting the material risks and by providing timely information to the users of annual reports. The risk management unit is responsible for managing legal risk, strategic risk, compliance risk, and reputation risk in line with main risks faced by banks, i.e. credit risk, operational risk, liquidity risk, and market risk. It is the responsibility of the senior management to know the inherent risk in banking business and develop comprehensive risk management practices within the bank. Disclosures on sound risk management practices ensure investors and depositors that the bank is prepared for uncertainties in the future and have satisfactory capital to mitigate risks inherent in banking sector. It is highly significant to disclose timely information on risks faced by banks in their annual report as well. Due to lack of appropriate risk disclosure requirements in Pakistan, there is no system in banks to warrant the implementation internal control activities. Risk disclosure practices complement the effectiveness of risk management and control system to increase the shareholder’s value. The discussion on the significance of quality disclosure practices is an important topic in banking supervision. Risk disclosure practices boosts transparency, mitigate the problem of stock valuation, ensure effective risk management practices, and enables financial analyst to predict accurate earnings forecasts.

Credit Risk Management

Credit risk management for Islamic banks is complex as they are compliant with Shariah regulations which obstruct them from charging accrued interest or penalties in case of non-payment or delay of the loan. So, the client can take advantage of this by delaying payments to Islamic banks. Because of the unproductive use of capital, it becomes difficult to maintain or raise capital for the bank, and this raises the rate of return risk for the bank due to non-payment of return to depositors. In the case of Mudarabah and Musharakah contracts, they are liable to pay back the capital amount invested by the bank if the negligence of the mudarib or managing partner is proved. But Islamic banks are exposed to credit risk in case of default. Generally, pledges and collateral are used by Islamic banks against credit risk. In some cases, before the transaction Islamic banks can ask its client to provide additional collateral. In some cases, the subject of the contract is persumed as collateral for the transaction. It can be difficult to determine the fair market value of collateral for sale over the time as collateral is considered illiquid. Institutional and personal guarantees can be used to mitigate credit risk. The main objective of collateral and guarantee is to guarantee the capability of client to meet financial obligations on time. The techniques used by Islamic banks to mitigate credit risk are somewhat like the techniques implemented by conventional banks.

Islamic Financial Services Board has provided the following principles for managing credit risks in Islamic financial institutions:

- Islamic banks should have in place a strategy for financing using Shariah compliant instruments, also they should recognize the probable credit risks that may arise by complying with Shariah regulations.
- Islamic institutions should adopt suitable reporting and monitoring methods for credit exposures among Islamic financial instruments.
- Islamic institutions should carry out screening of all the parties involved before deciding on the suitable choice of the financing instrument.
- Islamic institutions should develop suitable credit risk mitigation techniques, which can deal with all Islamic financial instruments.

Liquidity Risk Management

Central Bank of Pakistan has directed banks (both Islamic and conventional) to maintain a certain amount of reserve so that daily liquidity demand from depositors can be met. There is no gain paid on these reserves to the Islamic banks, as any reward on utilization of this money is prohibited in Shariah. Islamic banks have higher liquidity and cash balances as compared to conventional banks. Because they use constructive liquidation technique in which Islamic financing is used in a project that needs specified time. In this technique, net asset value of the project is calculated by subtracting all liabilities from the assets and based on this amount, recovery time of deposits is matched and organized with the time of constructive liquidation, so that the regular demand of liquidity is met. This method is used to mitigate the expectable irregular demand for liquidity. To achieve this, short-term liquid instruments are sold in the Islamic money market. Following are the instruments used to sell within the Islamic money market:

- *Mudarabah Redeemable Certificate of Deposit:* In this instrument, the owner of the instrument sells the Mudarabah certificate to obtain liquidity through a repurchase commitment or the issuer provides liquidity and keeps the project ongoing.
- *Islamic Banker's Acceptance:* In this instrument, Islamic bank act as an agent and charge secure commission for the provided services from the holder. If bank immediately requires liquidity, then the Islamic bank's acceptance can be sold in the secondary market.
- *Wakalah instrument:* In this instrument, the bank acts as an agent of the investor to invest money in pre-agreed assets and charges fixed fee from the investors. Wakalah contracts are also termed as unrestricted in which funds are invested without any restriction in a pool of assets. This contract does not need any parties and can easily be sold in the money market to Islamic, as well as conventional banks for liquidity. This instrument is also re-saleable to a new holder anytime.
- *Commodity Murabahah*: This instrument is considered acceptable by few Islamic scholars. Whereas, others argue that this instrument is not according to Shariah principles because the commodity is sold to the third party and debt obligation falls on the first party from the second party. Apart from that Murabahah contract is considered as a favorite by many Islamic banks in the money market as it can be bought and sold with ease.
- *Islamic Currency Swap Instrument:* This instrument is used to mitigate the foreign exchange rate risk in Islamic banks. It includes two parties to exchange an amount of principal and profit payments in one currency for the other amount of principal and profit payment within another currency over the different time periods. It allows Islamic bank to acquire funding in one currency and swap it with another currency for reducing the cost.

Operational Risk Management

For calculating capital requirements for operational risk most of the Islamic banks are using the basic indicator approach in which operational risk capital is calculated based on gross income of the bank. Whereas, some are using standardized approach which divides business activities into eight units. Each business unit directs the volume of business within the corresponding area of the bank. This approach is related to an indicator, which is offered by gross income for that business unit. Within each unit gross income is used as a proxy for operational risk. Rest of the Islamic banks are using advanced measurement approach in which banks are required by supervisors to evaluate its regulatory capital requirement by summing the expected and unexpected losses for each event. For the calculation of regulatory capital, the operational risk measures must be based on internal loss data for at least three-year observational time. Internal loss data can be used directly to validate it or to build the loss measure. This data should be inclusive of all material activities, geographical areas, and exposures from all sub-systems. This calculated risk measures are summed up for estimating the minimum regulatory capital requirement. Islamic banks are using identification methods for several risks, collecting relevant data, conducting formal training programs on operational risk, following standardized documentation of processes and control systems, and developing metrics for every type of operational risk. Islamic products require more tailoring and oversight and are less commoditized which leads to higher operational risk and considerable overheads.

Market Risk Management

The management of market risks is more difficult for Islamic banks owing to the restricted number of risk management instruments/tools available to them. To manage market risk, first Islamic banks should measure it accurately. There is not a single Islamic banking system out there that is capable of measuring market risk properly. In the absence of liquid secondary markets and Shariah compliant hedging tools, managing market risk in Islamic banking is more expensive than it is in conventional banking. Islamic banks tend to use traditional risk management techniques to manage their market risk in the absence of sophisticated tools. Simple stress testing, stop-loss provisions, marking to market, duration methodologies, profit rate analysis, position limits, price sensitivity, and scenario analysis are the most commonly used practices. These practices are mainly carried out using spreadsheets rather than sophisticated IT systems. Islamic banking needs to develop it owns set of risk management tools as it is not mature enough to apply existing conventional market hedging techniques and risk mitigation.

Risk Governance

Islamic banks are accountable to be administered by the Shariah advisors and Shariah Supervisory Board. Bank Negara Malaysia (BNM) in 2005 has issued a Shariah governance framework for Islamic banks. BNM has divided the risk governance framework in six elements including: responsibility of the board, accountability, independence of the board, confidentiality, oversight of board, competency, research function, and consistency with the Shariah rules. Islamic banks are required to provide an added layer of governance presented by the Shariah Supervisory Board, which is an independent body guaranteeing compliance with Shariah principles. The obligation of the Shariah Supervisory Board is to advise the board on Shariah matters to warrant Shariah compliance of transactions, internal matters, validation of documents related to product and services provided by Islamic banks, and on marketing issues. Moreover, the Shariah Supervisory Board is responsible for five main things, such as they provide fatwas which is certification of acceptable financial instruments conferring to Islamic principles, calculation of zakat, verification of transactions with fatwas, encouraging the distribution of income and expenses among stakeholders, and exclusion of non-Shariah payments.

Risk Mitigation

The restrictions added by Shariah compliance joined with the exclusive nature of risks faced by Islamic banks, makes risk mitigation for Islamic banks a complicated and difficult process. There are risks that Islamic banks can manage and control through appropriate risk policies, controls, and traditional risk management tools like credit ratings, risk diversification, GAP analysis, stress testing, on-balance sheet netting *etc*. Such traditional tools follow the Shariah principles. But, there are other risks that banks cannot eradicate and can only be reduced by selling or transferring such risks in well-defined markets. These risks can cause unexpected losses that need capital insulation, and hedging can aid to restrict the effect of unexpected loss. Traditionally in the conventional banks risk transferring techniques contain the use of derivatives for selling, hedging, or buying of financial claims while changing borrowing terms. However, the challenge is that most of the conventional hedging tools do not comply with the Shariah principles.

Islamic banks do not use extensively advanced techniques for mitigating risk exposures. The most used credit risk mitigation techniques are guarantees and collateral, as these two methods are considered more in line with Shariah principles. Also, these are easily changeable in the form of tangible goods, cash, stocks, and treasury bills, which are interest-free products. Whereas, credit derivatives, asset securitization vehicles, on balance sheet netting, off balance sheet netting, credit insurance programs, and syndication are used by limited Islamic financial institutions. Risk mitigation methods adopted by Islamic banks are mostly like conventional banks. Risk is measured by evaluating the probability of default and by maintaining historical data of the counterparties. Though, there is a lack of formal institutions to preserve credit data in developing countries. In that case, banks use the history of the client and attempts to approach informal sources to scrutinize the credit worthiness of the client.

6.1.2 Part II (Rules and Regulations)

Regarding the first question in part 2 about **"International rules and regulations"**, we were told that institutional infrastructures to support the development of the Islamic institutions are slowly emerging with the association between the private and public sector. Such developments include organizations to deal with corporate governance, accounting and regulatory standards, capital markets, and credit ratings. These efforts to develop institutions are also supported by numerous stakeholders such as the International Monetary Fund (IMF), international standard-setting bodies, central banks of leading Muslim countries, and financial centers. Following are some of the regulatory bodies for Islamic institutions worldwide:

- The Islamic Financial Services Board **(IFSB):** The IFSB was officially inaugurated with the help of the IMF in November 2002 in Kuala Lumpur, Malaysia. Its aim was to address systemic stability and various regulatory issues relating to Islamic financial services industry. IFSB issued an article in 2005 based on 15 principles for Islamic financial institutions on risk management. The goal of these principles was to guarantee that Islamic banks should act in accordance with Shariah rules and regulations including prohibition of Riba, enactment of the shariah compliant risk mitigation techniques, and to provide guidance to the unique nature of risks faced by Islamic banks based on the guidelines of the Basel Committee on Banking Supervision on risk management.

- Accounting & Auditing Organisation for Islamic Financial Institutions **(AAOIFI):** the AAOIFI was established in the year 1991 at Bahrain as a self-regulation agency for the industry to solve the issue of Shariah compliance and gaps in applying conventional financial reporting standards to Islamic banks.
- Islamic Development Bank **(IDB):** The Islamic Development Bank was established in 1975 as a regional development institution to encourage economic development in Muslim countries through Islamic finance. Since its formation, the IDB has established numerous sister institutions to develop trade and export financing and private sector insurance facilities. Moreover, the IDB has played a significant role in developing institutional infrastructure to encourage the development of Islamic financial systems.
- International Islamic Financial Markets **(IIFM):** The IIFM was created in the year 2002 in Bahrain as a cooperation between several supervisory authorities of Islamic countries. The major goals of the IIFM are to address the liquidity problem by expanding the maturity structure of instruments, and to assist in the formation of secondary market activity with designated market makers where such instruments can be vigorously traded. The IIFM focuses on harmonization and standardization within the industry. Its prime focus is on the unification and advancement of Islamic financial structures, documents, and contracts.
- Islamic International Rating Agency **(IIRA):** The aim of IIRA is to contribute in the development of regional financial markets by providing an assessment of the risk profiles of entities that can be used for investment decisions. The organization consists of board of directors, Shariah boards as well as an independent rating committee. The IIRA also provides an exclusive service for rating the quality of the Shariah compliance of Islamic institutions.
- Liquidity Management Centre **(LMC):** The LMC was established in the year 2002 in Bahrain to facilitate the investment of surplus funds of Islamic financial institutions into financial instruments organized in accordance with Shariah principles. The main goal of

the LMC is to facilitate the creation of an interbank money market that will allow Islamic financial institutions to efficiently manage their asset/liability mismatch through participation as both investors and borrowers.

- General Council of Islamic Banks and Financial Institutions **(CIBAFI):** CIBAFI is a non-profit organisation based in Manama, Bahrain, founded in 2001. It provides information and services to the Islamic Financial Services Industry. The CIBFI focuses on information and research, media and awareness, and strategic planning in relation to IBF industry.

Regarding the second question in part 2 about **"Government imposed rules and regulations"**, we were told that it included State bank's rules and regulations regarding risk management.

Regarding the third question in part 2 about **"Bank's own rules and regulations"**, we were told that it includes bank's own risk policies.

6.1.3 Part III (Major Risks)

Regarding the first question in part 3 about **"Major risks the bank is exposed to"**, we were told that the major risks face by Islamic financial institutions are divided into four main categories including financial risks, operational risks, business risks, and risks specific to Islamic banking. Special attention must be given to the contractual role of Islamic banks as the relationship between involved parties gives Islamic finance a different orientation towards risk during the lifetime of the contract.

Financial Risks

Risks that are linked with financial losses to assets and liabilities of the banks are termed as financial risks. The financial risks increase the general risk profile of Islamic banks, and it includes credit risks, liquidity risks, market risks, and repricing risks. Financial risks are subject to complex interdependencies that may significantly grow a bank's overall risk profile. For instance, a bank involved in foreign currency business is usually exposed to currency risk, but it is also exposed to liquidity, credit, and re-pricing risks if it carries open positions or mismatches in its forward book. Following are the main types of financial risks in Islamic banks:

- **Credit Risk:** Credit risk is defined as the risk associated with non-payment or inability of the borrower to pay back funds. Credit risk arises in the subsequent Islamic financial instruments such as in Murabahah contracts because of the nature of the contract and its compliance with Shariah principles. Credit risk can also arise when a client after receiving assets from the bank defaults on paying back its owed obligation. In Murabahah contracts, the bank is exposed to price and market risk because of credit risk as the buyer has a right to refuse the delivery of the product purchased by the bank. A client becomes a defaulter because of the following reasons: the bank has not provided service on time, no supply of goods in case of Salaam and Istisna contract, and the quality of the goods is low. In the Mudarabah contract credit risk arises when a bank becomes a financier of the project and because of the nature of Mudarabah contract cannot directly take part in the management of the project, also Islamic banks cannot take part in business activities to manage and assess credit risk. This condition leads to greater credit risks for the Islamic banks. In case of Musharakah contracts, if the client does not pay the gain from the business to the bank then this can also lead to credit risk for the Islamic bank. Islamic banks have qualitatively similar credit risk like conventional banks such as the procedure of the calculation of the minimum capital requirement for credit risk exposures is very much like the methodologies implemented by the conventional banks.

- **Market Risk:** Market risks are associated with the negative price trend in the foreign exchange rate risks, rate of return, equity risks, mark-up rate risk, and risks linked to commodity prices. Islamic banks are free from interest rate risks because they do not deal with several public and government financial instruments. Market risks are usually faced because of instability in current and potential market prices of specific assets. Market risks are also present in a derivative instrument like interest derivatives, options, equity derivatives, and currency derivatives.

- **Foreign Exchange Rate Risk:** Banks experience exchange rate risk because of the change in exchange rate between home and foreign currencies. Islamic institutions face foreign exchange risk in those contracts in which an Islamic bank must receive the payment in another currency, in case of payment made by Islamic banks in foreign currency where the currency rate increases, and in case where exchange rate of currency decreases in time.

- **Commodity Price Risk:** Commodity price risk arises when the banks hold diverse assets with a sight to sale them in future. If the commodity price of the assets goes down and the bank must deliver that commodity at a lower price, then it is recognized as commodity price risk. In Islamic institutions the commodity price risk is present in Mudarabah, Musharakah, Salaam, Ijarah, and Istisna kinds of Islamic financing instruments.

- **Mark-up Risk:** Islamic banks charge a mark-up on the loan provided to the client at a fixed rate. The markup rate is recognized with the assistance of LIBOR, because there is no benchmark to decide on the mark-up rate in Islamic banking. The mark-up risk arises in case of Mudarabah if the benchmark rate exceeds the the preceding rate, because the bank according to a new rate cannot charge more from the existing client. As in Islamic banking, mark-up is decided once for the whole period. Likewise, in case of Musharakah, Islamic banks exercise LIBOR as a standard for deciding profit and loss sharing. If benchmark rate rises, then the bank cannot enjoy the augmented return on the former contracts as rates are decided beforehand.

- **Equity Investment Risk:** Islamic banks are involved in equity investment in the following: private equity funds, contribution in specific projects, shares of stock market etc. These equities are also exposed to credit, liquidity, and market risks. In case of these risks, bank can face instability in the financial earnings and lead to loss of the capital invested in that equity. Equity investment risk includes the following:

    - Enhanced monitoring is required to reduce the informational asymmetries. Islamic banks must play active roles in reporting, monitoring, supervision of the projects, and proper financial disclosure.
    - Proper assessment and monitoring of the Mudarabah and Musharakah contracts is obligatory to avoid the equity losses. Extra care is needed for selecting and evaluating

the project to minimize the future equity losses as the degree of risk is high in these contracts.

- Investments in other equities except stock market are risky because of non-availability of proper and organized secondary markets, which raises the cost of preceding exit.

Operational Risks

Operational risks relate to technology related issues, the failure of the system, and functioning, including procedures, policies, and weak internal processes of the Islamic institutions, leading to potential losses for the banks. Operational risk arises due to failure of external and internal processes which result in direct and indirect losses to the Islamic institutions. Operational risk arises in the Islamic institutions because of the following characteristics including: dilemmas in internal control system for handling complications in operational processes and back office functions, cancellation of Istisna and Murabahah contract, plausible risk related to the enforcement of Islamic contract in a vast legal environment, technology risks, potential cost for monitoring equity based contracts and legal risks accompanying these contracts, and the risk of non-compliance with Shariah principles. Operational risks are considered important and one of the prominent risks faced by Islamic institutions at the list of risk exposures. Managers at Islamic banks believe that after mark-up risks operational risks are more important. Operational risks are lower in Murabahah and Ijarah contracts whereas they are higher in Salaam and Istisna mode of Islamic financing. The high ranking of the operational risk in these instruments depict that Islamic banks consider it hard to implement these contracts. In additions, operational risks also include other risks such as legal and reputational risks.

Business Risks

Business risks relate to bank’s business environment, including policy concerns, legal and regulatory factors, financial sector’s infrastructure, such as payment systems and auditing professions and other macroeconomic concerns. business risks arise due to macroeconomic and policy concerns, legal and regulatory factors, and the infrastructure of the financial sector. Business risk includes the following main risks:

- **Rate of Return Risk:** The rate of return risk arises because of uncertainty in returns on the investments of the Islamic banks. Rate of return is different than interest rate risk. Islamic banking is dissimilar to conventional banking as they deal with a fixed interest rate on securities, so they face less risk in rate of return on securities. However, the case is different in Islamic banking where rate of return on securities is disclosed at the end of the holding-period. These returns on investment cannot be exactly pre-determined. So, Islamic bank must wait for the result to determine the rate of return for depositors. This uncertainty can cause discrepancy in the return which is anticipated by depositors on their investment. The larger the discrepancy the bigger the rate of return risk is for the banks. As compared to other risks, i.e. operational and liquidity risk the rate of return risk is the most critical risk in Islamic banks. In addition, rate of return risk is high for banks offering Islamic financing then those not offering Islamic financing. Compared to conventional banks Islamic banks also have less flexibility in investments, as Islamic banks mostly invest in Murabahah financing which is insensitive to market interest rates. However, all the liabilities of Islamic banks are market risk sensitive that create negative fund gaps among assets and liability sides of Islamic banks.

- **Withdrawal Risk:** Withdrawal risk arises because of the lower rate of return offered to the depositors. If the Islamic bank is offering a lower rate of return to the depositor, then the depositor can withdraw their money and invest it in some other bank offering higher rate of return on their capital. Withdrawal risk can also arise from the competitive pressure faced by pure Islamic banks and the Islamic windows of the conventional banks.

- **Liquidity Risk:** Liquidity risk arises when banks have insufficient funds to fulfil its financial obligations on time. These are the results of poor fund management by banks and the complexity in obtaining the funds at an acceptable cost. Differences exist between the maturity level of these funds and with these differences banks are exposed to liquidity risk as banks are entangled in the business of transforming short term liabilities into long-term assets and loans. Liquidity in Islamic banks is of two kinds: (1) Unavailability of the funds: When there is a shortage of liquidity in the financial markets, it becomes difficult to convert illiquid assets into liquid form to fulfil the financial obligation of the bank. (2) When there is a shortage of funding in the market, it becomes difficult for the Islamic bank to raise the funds at an acceptable level. The key reason of liquidity risk in Islamic banks is the lack of sufficient liquidity in Islamic instruments. Liquidity risk arises in Islamic banking because of the following reasons:

- Lack of availability of Shariah money market.
- Absence of an effective inter-bank money market because of prohibition of interest rate on transactions by Shariah.
- Availability of fewer secondary markets are also a great reason for liquidity risk. Shariah law authorizes transaction and borrowing involving real estates. Hence, there is an essential need to develop assets backed tradable securities such as Sukuk bonds for Islamic financial institutions.

- **Reputational Risk:** Reputational risk, also labelled as a "headline risk", arises because of the irresponsible behavior of the management or non-compliance of system. This can result in damaging the reputation of Islamic banks and can also break the trust of the clients of Islamic bank. Harmful publicity about the Islamic bank can also cause harm to the reputation of the bank and have a negative influence on liquidity, market share, and profitability of the bank. As the Islamic finance industry is new in the market, all Islamic banking institutions are exposed to reputational risk. Therefore, any harm to a single institution can cause harm to the whole industry. Reputational risk can be eased by ensuring Shariah compliance which is the essence of the Islamic banking and by the mutual consent built among dominant religious scholars.

Risks specific to Islamic Banking

Because of the unique nature of Islamic banking, there are some specific risks to which Islamic banks are exposed to which are different from those faced by the conventional banks. Following are the main risks specific to Islamic banks:

- **Shariah Non-compliance Risk:** Shariah non-compliance risk arises due to the defiance of Shariah rules and regulation established by the Shariah Board of the Islamic financial institution or any relevant authority of an Islamic financial institution. There are two types of Shariah risks: (1) Risks arising because of failure in following the Shariah rules and regulations and (2) Risk arising from unconventional practices by different authorities. Different school of thoughts have different thoughts about the understanding of Shariah regulations that result in different practices in relation to financial auditing, reporting, and accounting treatment. Some scholars consider Istisna and Murabahah contracts are compulsory and binding on the buyer. Though, some scholars contradict with this statement and claim that these contracts are not mandatory to follow by buyer after putting a purchase order of the bank. The risk of the Islamic bank is high in the non-binding contracts and may cause hearing in the court against the client. The relation between depositor or banker is of the principal and agent. Islamic banking is varied from conventional banking in this respect, as investor deposits his funds in bank with full trust that they will deal in accordance with Shariah rules and regulations. If a bank shatters the trust of the customer and are involved in non-compliance with Shariah, then the risk for the bank is breaking the confidence and trust of the depositor. Some scholars stated that any income generated from the non-compliance of the Shariah should not be dispersed among depositors and investors.

- **Displaced Commercial Risk:** The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) has defined displaced commercial risk as the risk that arises when an Islamic bank is under burden to pay depositors and investors a higher return than would be paid under the actual terms of the investment contract. This can happen when a bank has underachieved for a period and remains unable to produce sufficient profits for distribution to account holders. To mitigate displaced risk, Islamic banks may choose to give up a portion of their gains to stop the depositors from withdrawing their funds. Islamic banks frequently participate in this volunteer activity. Islamic institutions should implement a uniform practice, and they should evidently explain and state the rights of investment account holders of these reserves to the applicants.

- **Transparency Risk:** Transparency is defined as "the disclosure of timely and reliable information that enables users of the information to make an accurate assessment of the condition of a bank, its business activities, financial performance, risk management practices, and risk profile." Lack of transparency creates the risk of losses due to depraved decisions based on inaccurate or incomplete information.

- **Lack of Standardization Risk:** The Shariah is subject to interpretation, particularly in economic and financial transactions known as the fiqh-al-muaamalat. Therefore, from one school of thought to another, from one market to another, and even from one Shariah scholar to another, the fine line between what is considered lawful at any point in time and what is not considered lawful can be so thin that fatwah may vary significantly. This difference in the interpretation of Shariah regulations result in differences in financial auditing, reporting, and accounting treatment. This variation is not only costly and time-consuming, but it also leads to confusion about what Islamic banking really includes and, therefore, hampers its general acceptance among the investors and customers who sometimes find themselves confused about the concept of Islamic banking and its specific products.

- **Fiduciary Risk:** Fiduciary risk arises from the failure of an institution to perform according to implicit and explicit ideals of fiduciary responsibility. This risk contains the risk of litigation if the bank violates the obligation of fiduciary to shareholders and depositors. Islamic banks as fiduciary agents are expected to act in the best interest of depositors, shareholders, and investors. When the goals of shareholders and investors differ from the activities of the bank, the bank faces fiduciary risk. Likewise, the negligence or misconduct to comply with Shariah principles can also weaken the reputation of the bank. Even a financially strong Islamic bank facing this risk will lose the trust of potential investor or depositors which in turn, decreases the deposits of the depositors. Fiduciary risk also exposes depositors and shareholders on investment for the risk of economic losses as they obtain their share of the gains.

6.2 Interview 2 (Conventional Bank)

The second interview was conducted at Lahore on 12 March 2018 in Askari Bank which is a conventional bank. The interview was taken from the General Manager of Askari Bank in Islamabad, Pakistan and lasted for about 45 minutes. The interview was based on the questions in the interview guide. First the manager gave us a brief overview of the bank and its operations in Pakistan. He told that the bank started operations in the year 1991 as Askari Commercial Bank.

6.2.1 Part I (Risk Management Practices)

Regarding the first question in part 1 **"How many people are there in this department"**, we were told that there are 22 persons in risk management department in the central region including the general manager, risk management officer, and other staff.

Regarding the second question **"What are the roles/duties of these individuals"**, we were told that the general duties of individuals in this department include scrutiny of documents, underwriting, and risk mitigation.

Regarding the third question **"What are the general practices regarding risk management"**, we were told in detail the general practices regarding risk management and the tools and techniques involved in it. Mainly we were told about risk management process, credit risk management, liquidity risk management, operational risk management, and risk governance.

Risk Management Process

Comprehensive risk management process includes the following eight aspects which include: exposure identification, data collection on risk and quantification of risk, management objectives, product and control guideline, risk management evaluation, strategy development, implementation plan and performance evaluation. This process is suggested for commercial banks. But the main steps in risk management process include risk identification, risk assessment and analysis, risk evaluation, risk monitoring, and risk control and mitigation.

- **Risk Identification:** Risk identification is a continuous practice that discloses the risks and its settings that are present in an organisation. Risk identification helps to regulate the activities where organizational resources are exposed to risks. Risk identification is the first stage in the risk management process and this is the starting point for other steps like risk analysis, assessment, and control of risk. If risk identification is authentic then risk management would be effective. Risk managers need to see what is happening at all levels of the organisation. While identifying risks banks need to consider the level of risks related to certain types of transactions. Like term financing and loans in debt instruments have a difference in the maturity term of the loan. As compared to a short-term loan there are more chances of default if the term period of the loan is longer. It is essential for the banks to decide rules associated to the level of risks, keeping in-line with the maturity period of the term loan.

- **Risk Assessment and Analysis:** Risk quantification is significant for controlling risks and assessing risk impact. Effective risk assessment assists the management to decide future action plans. The bank needs modelling for measurement and assessment of risk profile, but some risks like operational risk cannot be quantified quantitatively. Operational risk can be quantified by using qualitative techniques. Quantitative techniques are considered more effective and suitable for decision making. The scope of the risk assessment is determined by understanding the goals of the organization and types of possible risks that can arise in the progression of business. The goals of the organization are broad and narrow. The broad objectives are based on operational, strategic, reporting, and compliance whereas narrow objectives are related to processes, products, and functions. Likewise, possible risks are related to credit, liquidity, market, and operational. Also, the scope can be limited to the business unit, a specific area, or enterprise wide. Once the scope is determined, possible risks of the organization are rated with respect to the impact in terms of harshness of the risk and likelihood.
- **Risk Evaluation:** Risk evaluation contains the segregation of major and minor risks. After risk measurement, the following step is ranking the risks. After risk analysis, projected risks are compared with the established risk criteria. Risk criteria may include legal,

environmental, economic, and social aspects, and associated costs and benefits for the institutions. At this stage the bank must decide about risk type and risk level that is manageable and acceptable. Moreover, the bank also needs to make clear which risks are needed to be mitigated, eliminated, and transferred to the third party.

- **Risk Monitoring:** The risk management department is responsible for risk monitoring, and to implement risk policies set by the top management related to the liquidity, credit, and market risks arising from day to day business activities. It is significant to place risk managers within each business unit, who are answerable to risk management department on a day to day basis, so that a connection between the risk management department and business units could be maintained. Risk monitoring is the most substantial variable in risk management practices, if it is removed from risk management practices model r-square will decline by 10 percent.

- **Risk Control and Mitigation:** For effective risk management, a bank needs to articulate the methodologies and strategies through which they can regulate their risk present in the portfolio. It is essential that banks decide the risk tolerance level, which would be helpful in controlling risks. The tolerance level established by the bank should not be too high that it goes outside the bank's capacity to manage it and not too low that it results in lower profitability. If an understanding about risks is effective than risk mitigation will be swift, and this will result in efficient risk management practices.

Credit Risk Management

Credit risk is termed as one of the most significant risk in the banking sector. It is considered the major cause of bank failures in recent years, and it is most common risk that is faced by banks. Effective credit risk management includes developing an environment that is appropriate for credit risk by establishing a comprehensive credit granting process, having a suitable credit administration, including the process of monitoring, and controlling credit risk. There are three principles for the credit risk management, i.e. selection, limitation, and diversification. Selection is connected to the description of the process for considering a loan application describing information on the amount of loan, collateral, purpose of loan, and repayment. Limitation relates to the set of different categories and type of lending limits. Diversification is related to the spread of loan over unrelated type of borrowers, numerous sectors, and to the different geographical areas. The success of credit risk management depends on the credit strategy, maintenance of the proper credit risk environment, and policies. The goal of the bank is to improve the quality of loan provided and to protect it. Credit risk management policies and strategy, information technology and moral hazard are significant to back the process of credit risk management.

Liquidity Risk Management

The provision of liquidity and financial services are the two most significant reasons for the presence of financial institutions, especially banks. About liquidity provision, banks receive the deposits from the persons having surplus money and spread them as funds to the real sector or persons needing money, while handling the liquidity for any withdrawal of deposit. On the other hand, banks perform the function of converting the short-term deposits into long-term loans, making them naturally vulnerable to liquidity risk. Systematic demand of liquidity can be mitigated or managed by the following techniques: first, the bank can invest in more liquid assets which can easily be converted into cash; second, the bank should maintain extended sources of funds from different depositors for diversification; Third, to meet the regular demand of liquidity the bank should use the central bank as a lender of last resort. It is desired by the banking guidelines provided by Basel II, III, and central banks of several countries that banks should keep a distinct reserve account to meet the regular demand of the depositors. The bank can keep these funds through the following ways: central bank certificates, currencies kept with the central bank, and deposits with commercial banks and cash items, like unsettled cheques. The recent mayhem in financial markets has made apparent the implication of liquidity risk management for the stability of the banking sector.

Operational Risk Management

The bank needs to deal with its operational risk management as a distinct and independent risk management function for identifying, monitoring, assessing, mitigating, and controlling the operational risk faced by banks. The framework of operational risk management depends on the complexity and size of banking business. It should also be in line with working environment, targeted capital level, and risk appetite. The framework of operational risk management should include the design of the communication and reporting lines that will assist to encourage understanding of operational risk within the department and will promote control culture and risk awareness within the organisation. It should also describe the role of different business lines including describing the guidelines for accountability and responsibilities. In addition, the operational risk framework should state the following characteristics in its framework:

- The bank needs to present policies, procedures, and processes with respect to operational risk management into a document which should be communicated to the staff involved in daily activities.
- The bank should decide on the process related to the assessment and identification of operational risk considering the historical record and potential of events.
- Banks should adopt an effective process for detection and monitoring of deficiencies in the operational risk management procedures and system.
- Banks should map out the activities and products within the business lines for handling operational risks.
- Banks should develop policies, processes, and procedure to mitigate and control substantial operational risks. They should review the effectiveness of operational risk strategies on a regular basis and adjustments should be made in case of deficiencies.

Risk Governance

An effective risk governance framework comprises of a a powerful risk appetite framework which is presented within the risk appetite statement, strong risk culture, and a well-defined responsibility for risk management, and control function in general. It is the duty of the board to supervise the risk governance framework. Effective risk governance includes the role and responsibilities of the board of directors, risk management unit, the CRO, and autonomous assessment of risk governance framework. Risk governance generally includes: responsibilities and accountability, mandates, board level committees and their structure, overall organizational structure, authority and stature, policies, processes, limits, oversight of risks, control, performance management, reinforcing and incentives by HR department.

6.2.2 Part II (Rules and Regulations)

Regarding the first question in part 2 about **“International rules and regulations”**, we were told that these include the Base I, II, and III guidelines. The Basel Accords are used as guidelines for the establishing the Risk Management framework.

Basel III

The new framework for international banking came on September 2010, when the new guidelines for risk management were declared by the BIS. Because of Basel III accords, the eligibility of capital has been tightened, the capital ratio requirement has increased, reducing the amount of capital banks must meet the required ratio; and the calculation of risk weighted assets has changed causing to an increase for many institutions. Though implementing Basel III has its challenges and may eventually not be enough to help banks globally withstand another financial blow, it is anticipated that the new Accord will recover banking confidence and intensify competition between banks (Basel Committee on Banking Supervision, 2010).
The Basel III proposals have two main objectives according to the BCBS:

- To strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector (Basel Committee on Banking Supervision, 2010).
- To improve the banking sector’s ability to absorb shocks arising from economic and financial stress, which in turn would reduce the risk of a spillover from the financial sector to the real economy (Basel Committee on Banking Supervision, 2010).

To achieve these objectives, the BCBS Basel III proposals are broken down into three main areas:

- Capital reform including complete risk coverage, quality and quantity of capital, leverage ratio and the introduction of capital conservation buffers and a countercyclical capital buffer (Basel Committee on Banking Supervision, 2010).

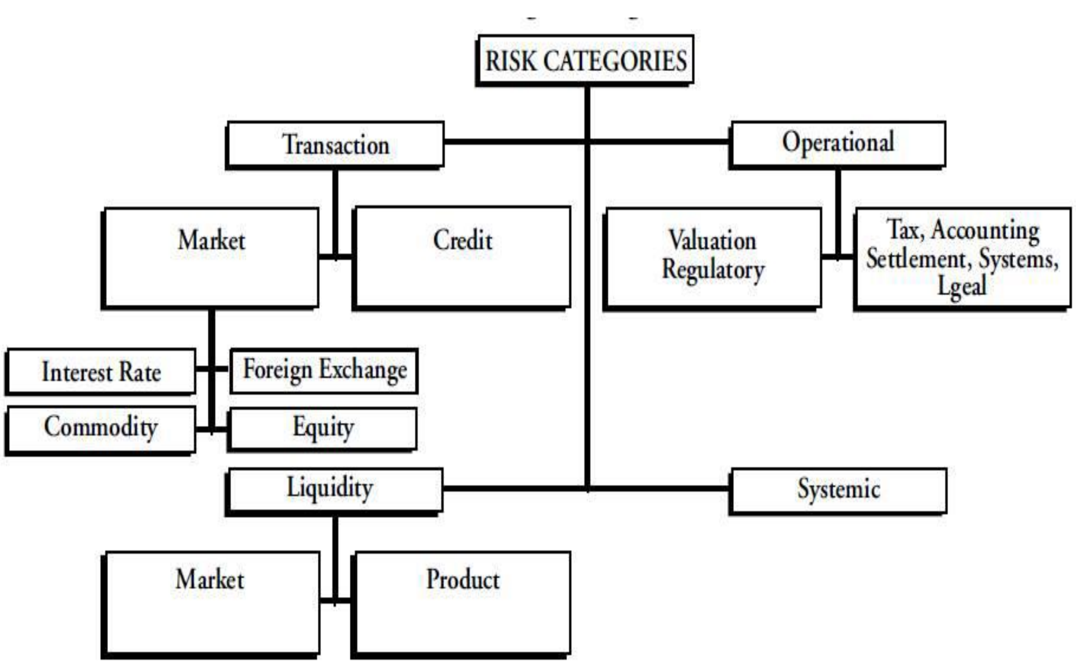
- Liquidity reform including short term and long-term ratios (Basel Committee on Banking Supervision, 2010).
- Other elements relating to general improvements to the stability of the financial system (Basel Committee on Banking Supervision, 2010).

Regarding the second question in part 2 about **"Government imposed rules and regulations"**, we were told that it included State bank's rules and regulations regarding risk management.

Regarding the third question in part 2 about **"Bank's own rules and regulations"**, we were told that it includes bank's own risk policies.

6.2.3 Part III (Major Risks)

Regarding the first question in part 3 about **"Major risks the bank is exposed to"**, we were told that the major risks face by conventional banks are divided in four main categories including transactional risk, liquidity risk, operational risk, and residual risk.



Transactional Risk

These risks generate hurdles for companies and individuals dealing with different foreign currencies as exchange rates of currencies might change over a short time-period. This effect can be reduced by using currency swaps and other related securities. Transactional risk includes two main types:

- **Credit Risk:** Credit risk is the most significant risk in the financial sector. Credit risk includes meeting contractual obligation or defaulting of counterparty on debt payment. Credit risk is a significant part of fixed-income investment because of which rating agencies evaluate credit risks of companies and corporate issuers. Credit risk is divided into following credit risk components:

  - ***Default risk**:* Default risk arises when a borrower defaults in paying back the partial or full amount of loan. There are numerous default situations such as insolvency of the borrower, delay in loan payment, reorganizing the debt structure because of decline in the credit position of the borrower.
  - ***Migration risk:*** Migration risk refers to the direct loss because of the internal and external rating of stock and bond issuer as well as the possible indirect losses because of credit migration event. Such decline increases the chances of non-payment but does not mean a default of payment.
  - ***Exposure risk:*** Exposure risk refers to loss of the amount because of the future value of money lend to the party.
  - ***Loss under the default**:* It includes the part of the loan amount which is not paid back by the borrower. The partial payment could be made due to recoveries from collateral.
  - ***Counterparty risk:*** Counterparty risk arises because of the non-performance of the trading partner.

- **Market Risk:** Basel committee define market risk as a risk of losses in on and off-balance sheet positions rising from the variation in the market prices. Risks that arise because of the exchange rate or even changes in the prices of bonds, changes in the market value of the interest rates, commodities, and equities. Banks confront market risks regarding management of trading operation and balance sheet. The following risks are included in the market risk:

- ***Interest Rate Risk:*** Risk that arises because of the fluctuation or change of the interest rate on assets such as loan or bond. Normally, interest rate risk is measured by the duration of the bond or loan. Interest rate risk includes basis risk, yield curve risk, reprising risk, and option risk.
- ***Foreign Exchange Risk:*** This risk arises due to incurring losses because of the fluctuation in exchange rates. Changes in the earnings due to the outcome of indexation of expenses and revenues to exchange rates or variation in the value of liabilities and assets denominated by foreign currencies. Foreign exchange risk is also recognized as currency risk or exchange rate risk. This sort of risk usually occurs in import and export businesses.
- ***Equity Risk:*** Equity risk is the risk of depreciation in the value of investment because of stock market dynamics, causing corporations or some individuals to lose money.
- ***Commodity Risk**:* This risk arises because of the uncertainties in the future market value of commodities, which create fluctuation in the rates of the commodities. These commodities include metals, grains, electricity, minerals, etc. The following risks are included in commodity risks: price risk, quantity risk, cost risk, and political risk.

Liquidity Risk

Liquidity risk is the key risk in the banking sector. Liquidity risk refers to a situation in which a bank is not capable to pay its liabilities because of the mismatch in maturity of assets and liabilities. Banks with huge number of off-balance sheet items are more exposed to liquidity risk. The financial risks are conceivably wide-ranging that is the cause liquidity risk does not arise alone in the bank. It is the outcome of consequences of risks such as interest rate risk, credit risk, market risk, etc. Effective liquidity risk management assists in maintaining relationship with borrowers by meeting their loan requirement on time, avoiding the sale of assets at low prices to generate funds, and growing the confidence of the market. Liquidity risk includes the following risks:

- **Funding Risk:** It includes the risk of replacing the net cash flow because of unexpected withdrawals or deposits not renewed by the depositors.
- **Time Risk:** It includes the risk of compensation of non-receipt of anticipated inflows of funds like performing assets revolving into non-performing assets.
- **Call Risk:** It includes the risk of obtaining contingent liabilities and the inability to acquire beneficial business opportunities, when desired.

Operational Risk

Operational risk is the risk of direct and indirect loss because of the shortfalls in performance of employees, internal processes, external events, and the overall system. These risks normally arise from failure of reporting system, information system, internal procedures designed to implement corrective measures on time, and internal risk monitoring rules and regulations. Operational risks exist at following levels:

- **Human Errors:** It includes lack of expertise in employee practices, and internal or external frauds that result in loss to the bank.
- **Processes:** Processes risk includes the inadequate controls and procedure for monitoring, reporting, management and organizational deficiencies, technical inefficiency, and decision-making, which cause internal losses to the bank.
- **Technical:** Technical risk includes the wrong implementation of the technical processes, modeling error, and absence of suitable tools for measuring risk present in banks.
- **Information Technology:** It includes the risk of loss because of the insufficient information system or system failure.

Residual Risk

It includes the following risks:

- **Reputational Risk:** Reputational risk arises because of the risk of damage to the goodwill of the bank which destroys shareholders value. The consequences of reputational risk include share price decline, negative image of the bank, loss of customers and trade partners, lawsuit, and less revenue.

- **Compliance Risk:** Compliance risk arises because of the failure in performing legal activities, ethical and legal standards, and rules and regulations.
- **Country Risk:** Country risk is also known as sovereign risk. This risk arises because of the meddling of the foreign government in case of default of a loan by the foreign borrower.
- **Off-Balance Sheet Risk:** This risk arises because of the contingent assets and liabilities. For example, forward contracts, future, swaps, options, and letter of credit.

Chapter 7. Analysis and Discussion

This section includes the analysis of the three main parts presented in the findings keeping in view the structure of the interview guide. So, it includes the comparison of risk management practices, rules and regulations, and major risks faced by the Islamic and conventional banks.

7.1 Risk Management Practices

From the above findings we can say that there is no difference between Islamic and conventional banks in the basic risk management framework including the risk management process. The main differences lie in the following areas of risk management.

7.1.1 Credit Risk Management

Islamic banks have less sophisticated credit risk management practices, mostly because of the lack of databases and insufficient tools. Conventional banks use these tools to minimize their credit risk. For example, the calculation of Exposure at Default (EAD), Probability of Default (PD), Credit VaR, Loss Given Default (LGD), and Expected losses (EL) do not usually exist in Islamic banking. There are efforts to adjust some of the existing models like Risk Calculator, Risk Tracker, and Credit Edge to lodge Islamic banking or to develop similar models designed for Islamic banks. To develop such model’s Islamic banks face huge challenges stemming from the fact that there is limited systematic data available in the Islamic market. Credit risk management for Islamic banks is further complicated by added externalities. For instance, Islamic banks in the case of default by counterparty are forbidden from imposing any penalty or charging any accrued interest, except in the case of deliberate delay. Knowing that the Islamic bank will not charge a penalty or require extra payments clients can take advantage by delaying their payments. Islamic institutions at least in theory always back their transactions with collateral. Therefore, collateral coverage is generally higher for Islamic banks than for conventional banks. Islamic institutions can somewhat minimize their regulatory and economic exposures in case of default because they have high level of collateralization on their credit portfolios. Islamic banks can finance the acquisition of identifiable assets of which they have legal ownership, in most cases until final repayment and maturity, contrary to conventional banks, where customers are not always required to disclose the purpose of their borrowings.

7.1.2 Liquidity Risk Management

To protect the interests of their investors, depositors, and shareholders against liquidity crisis and credit upheavals, Islamic banks have customarily held high levels of liquid assets. In an economic downturn this reduces liquidity risks. From a leverage perspective, operational models of Islamic banks are based upon conservative fundamental values that discourage the use of unequal levels of debt to finance assets, as well as doubtful and speculative investments, which have repressed the industry in terms of its leverage use. Consequently, funding portfolios of Islamic banks are highly concentrated in limited liquid assets and are lacking in terms of a securitized asset base. Naturally, Islamic banks would place their surplus cash reserves into short-term interbank Murabahahs, at a cost compared to conventional banks. Short-term Murabahahs indeed resemble money market interbank placements, but costs for managing liquidity might be high as Murabahah contracts make it compulsory for commodity brokers to be involved. Therefore, Islamic institutions are mostly subject to the constant trade-off between liquidity and profitability in a binary way. Thus, Islamic banking sector is faced with a constant challenge: its institutions sustain high concentrations in short-term liabilities, but, simultaneously, they are exposed to highly profitable, but illiquid, long-term assets including property, infrastructure, and sukuk. They also have restricted access to long-term funding solutions. The nature of the Islamic banking model and Shariah-compliant laws relevant to the accessible asset classes means that Islamic banks are consistently faced with a swap between profitability and liquidity.

7.1.3 Operational Risk Management

The extensive range of activities involved in operational risks make it difficult for organizations to apply standard models and so there is an absence of universally acceptable standard models. Banks frequently use operation risk indicators, quality self-assessments, internal audit ratings, or key risk indicators such as turnover, volume, rate of errors, loss volatilities and income etc. Operational risk is generally considered high on the list of risk exposures for Islamic banks as compared to conventional banks. It is reasoned that operational risks are likely to be substantial for Islamic banks because of their specific contractual features. Furthermore, Islamic products require more oversight and tailoring, and are less commoditized. This leads to considerably higher operational risk and overheads. In brief, given the newness of Islamic institutions and their exclusive business model, operational risk can be critical in these institutions. So, the three modes of computing operational risk suggested by the Basel II Accord must be revised considerably if they were to be implemented in Islamic banks.

7.1.4 Market Risk Management

Managing market risk is more difficult in Islamic banking than it is in conventional banking because of the absence of liquid secondary markets and Shariah compliant hedging tools. Very limited number of Islamic banks have the systems, capability, and credit lines accessible to write Islamic profit rate swaps. Most innovative market risk management tools like simulation models and value at risk (VaR) need long history of price changes, huge trading volumes, and volatility to perform stress-testing and back-testing. These tools are simply unavailable for Islamic banking given its partial market liquidity and relatively new state. VaR does not perform well for illiquid markets with high concentrations; which is unfortunately the present state of most Islamic banking institutions. Therefore, Islamic banks are inclined to use traditional risk management tools and techniques to manage their market risk in the absence of sophisticated tools.

7.1.5 Risk Mitigation

Risk mitigation is presently one of the most prominent problem among Islamic institutions. The exclusive nature of risks faced by Islamic banks, combined with the limitations added by the Shariah principles, makes risk mitigation for Islamic banks a complex and difficult process. Like conventional banks there are risks that Islamic banks can control and manage through suitable risk policies and controls which do not contradict with the Shariah. Still, there are other risks that banks cannot remove and can only be removed by selling or transferring those risk in well-defined markets. These risks can create unexpected losses that require hedging and capital insulation which in turn can assist to limit the impact of unexpected loss. Usually in the conventional banking risk transferring techniques include the use of derivatives for selling, hedging, or buying of financial claims, and altering borrowing terms. However, the challenge is that most of the conventional hedging tools are not applicable to Islamic banks as they do not conform with the Shariah requirements. This makes Islamic banks face extra collection of risks mainly credit and market risks. There have been considerable efforts in developing Shariah compliant hedging instruments; still, much of this progress remains contained within local areas having limited scope for cross-border application. Special attention must be given to the contractual role of Islamic banks since the relationship among parties during the lifetime of the contract gives Islamic banks a different angle towards risk. Even when risk management techniques in conventional banks are applicable to Islamic banks, the implementation of risk management tools and techniques, particularly in hedging market, FX, commodity risks, and price is challenging.

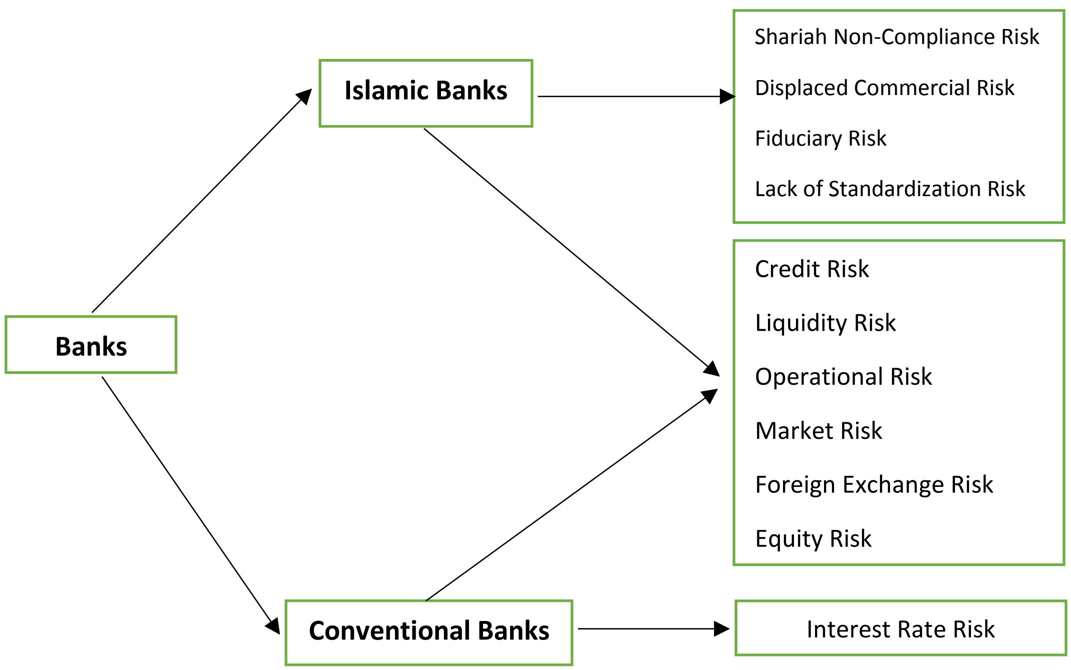
7.2 Risk Management Rules and Regulations

The rules and regulations for Islamic banks includes following the teachings of Quran, Hadith, Sunnah. These are not part of conventional banking practices. Apart from these for conventional banks there are Basel I, II, and III accords available for risk management provided by Basel Committee on Banking Supervision. Whereas Islamic institutions include several private regulatory bodies like Islamic Financial Services Board (IFSB), Liquidity Management Centre (LMC), Islamic Development Bank (IDB), Accounting & Auditing Organisation for Islamic Financial Institutions (AAOIFI), Islamic International Rating Agency (IIRA), and General Counsel of Islamic Banks and Financial Institutions (CIBAFI).

Basel II was drafted by keeping the structure of conventional banking in mind. Also, many researchers argue that Basel II is mainly for conventional banks and has limited applicability for Islamic banking. However, above findings from this study found that market experts believe that with some adaptations Basel II can be applied to Islamic banks. For this purpose, IFSB could play a significant role in this context.

7.3 Major Risks

Most of the risks faced by conventional banks such as market risk, liquidity risk, operational risk, credit risk, are also faced by the Islamic banks. However, the scale of some of these risks are different for Islamic banks because of their exclusive business model and its compliance with the Shariah regulations. Thus, the nature of some risks that Islamic banks face is different from conventional banks. Also, Islamic banks are exposed to varied sort of risks as they have a dissimilar structure of assets and liabilities in relation to conventional banks. The chart below shows the visual depiction of our findings with respect to major risks faced by both banking systems.



These are the major risks faced by both banking systems. The above chart shows that there are four major risks which are specific to Islamic banking. Other risks which are specific to Islamic banks include transparency risk and governance risk. In case of conventional banks, the only major risk specific to conventional banking includes interest rate risk. And finally risks which are common among both type of banking system includes six major risks. Other risks which are common among both banking system includes commodity risk, legal risk, country risk, hedging risk, settlement risk, and other risks.

Chapter 8. Conclusion

Risk management in the banking sector is one of the most prominent and debated issue. This study focuses on finding the differences between the rules/regulations and practices regarding risk management in Islamic and conventional banks. The findings of the study reveal that although progress has been made across the banking sector over the past few years, still Islamic banks are facing substantial challenges when managing and measuring risks. The findings reveal that Islamic banks use internal risk ratings, collateral arrangement, guarantees, off-balance sheet netting, and securitization techniques to mitigate risk exposure across the bank. Whereas, mitigation techniques implemented by conventional banks include guarantees, collateral arrangement, internal risk ratings, on balance sheet netting, and loan loss provision.

The findings reveal that there exists a substantial difference between Islamic and conventional banks in risk management practices, risk identification, liquidity risk analysis and risk governance. Islamic bank is performing competently in liquidity risk analysis, whereas, conventional bank is competent in risk management practice, risk identification, and risk governance. The risk management, risk monitoring and reporting, and liquidity risk analysis are weak in Islamic banks. Whereas, risk analysis and assessment are weak in conventional banks. Due to lack of risk management trainings and limited knowledge of risk management practices, understanding of risk management practices is weak in Islamic bank.

The study also reveals that in terms of rules and regulations, there is no proper institutionalization of Islamic institutions regarding risk management as compared to conventional banking where the risk management practices are institutionalized by Basel Committee on Banking Supervision.

The research on risk management practices in Islamic banks is still an under investigated area, as the Islamic banking industry is flourishing over time not only in Islamic countries, but also in Western and African countries. The current research study was conducted in the context of the Pakistani banking industry. Due to cultural and regulatory differences there exist numerous differences in practicing risk management among different economies regarding Islamic financing.

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10. Appendix (Interview Guide)

Date of the Interview: ______________________

Interviewee Information

Name: ____________________________

Bank: _____________________________

Designation: ___________________________

Purpose of the Study

The main purpose of this research is to figure out the differences in rules/regulations and practices regarding risk management in Islamic and conventional banks in Pakistan.

Questionnaire

1. Can you tell me about the risk management department?
    a. How many people are there in this department?
    b. What are the roles/duties of these individuals?
    c. What are the general practices regarding risk management?

2. What are the rules and regulations regarding risk management?
    a. International rules and regulations?
    b. Government imposed rules and regulations?
    c. Bank's own rules and regulations?

3. What are the major risks the bank is exposed to?
    a. Can you rank them with respect to their importance?

4. Is there anything you would like to add?