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Operational Risk Management, Risk Management Approaches, and Risk Mitigation Techniques: Challenges Faced By Islamic Financial Services

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Abstract: *The present study discussed and analyzed a number of issues concerning the operational risk faced by Islamic Financial Services, for example concepts of operational risks, risk management approaches and risk mitigation techniques and standards as these exist in the financial industry, unique operational risks of the Islamic Financial Services industry and the perceptions of Islamic Financial Services about these risks, regulatory concerns with respect to operational risks and their management, and Shari'ah related challenges concerning risk management has been identified and discussed.*

This study is an exploratory study therefore, based on the literature review relating to operational risk, risk management approaches and risk mitigation techniques. Guidelines on Stress Testing, issued by State Bank of Pakistan including sensitivity analysis and scenario analysis were also studied. The major part of the data consisting of secondary source was collected through research journals, internet and relevant books. Citation and literature discussion have been the major approach of this study.

Banks should aim to develop a framework for operational risk management particularly for collecting operational loss data. In respect of designing operational risk stress tests, key indicators, like human errors, frauds, or failure to perform in timely manner, breaching limits, failure of information technology systems or events such as major fires or other disasters may be identified against the business lines. Shocks may be given to these risk events, their frequency and severity of losses. Once the operational loss events are identified, the level of shocks may be designed by looking into both the historical as well as hypothetical level of losses under those risk events.

Keywords: *Risk Management Process, Operational Risk, Risk Mitigation Techniques, Risk Assessment.*

I. Introduction

The definition of operational risk has evolved over the past few years. Firstly, it was defined as every type of unquantifiable risk faced by financial institutions. However, further analysis has refined the definition. Operational risk has been defined by the Basel Committee on Banking Supervision (BCBS) as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk, but excludes strategic and reputational risk. It seeks to recognize why a loss happened and at the broadest level includes the breakdown by four causes: people, processes, systems and external factors.

Risk entails both vulnerability of asset values and opportunities of income growth. Successful firms take advantage of these opportunities Damodaran, (2005)[1]. An important element of management of risk is to understand the risk–return trade-off of different assets and investors. Investors can expect a higher rate of return only by increasing their exposure to risks. As the objective of financial institutions is to create value for the shareholders by acquiring assets in multiples of shareholder-owned funds, managing the resulting risks faced by the equity becomes an important function of these institutions. As Islamic banking is relatively new, the risks inherent in the instruments used are not well comprehended. Islamic banks can be expected to face two types of risks: risks that are similar to those faced by traditional financial intermediaries and risks that are unique owing to their compliance with the shari'ah. Furthermore, Islamic banks are constrained in using some of the risk mitigation instruments that their conventional counterparts use as these are not allowed under Islamic commercial law.

Islam prohibits interest in all forms and manifestations, as in some other major religions, and the aspiration of Muslims to make this prohibition a practical reality in their economies, has led to the founding of the Islamic Financial Services Industry (IFSI). The industry has made substantial progress over the last three decades after the establishment of the first Islamic bank (Dubai Islamic Bank) in 1975. The number of institutions offering shari'ah compliant services has risen, as has the number of conventional banks that have opened Islamic windows and branches. The total volume of assets that all these institutions manage has risen rapidly and so has the international acceptance of Islamic finance.

However, the industry is still in its formative stage and faces a number of challenges that need to be addressed to enable it to continue its rapid expansion without facing any serious crisis and, thereby, acquire greater respectability and a much greater share of the international financial market. This raises the question of what these challenges/risks are and how they can be hedged or mitigated.

The present study will discuss and analyze a number of issues concerning the subject for example:

- It will present an overview of the concepts of operational risks, risk management approaches and risk mitigation techniques and standards as these exist in the financial industry.
- The unique operational risks of the Islamic Financial Services industry and the perceptions of Islamic Financial Services about these risks.
- The main regulatory concerns with respect to operational risks and their management with a view to draw some conclusions for Islamic Financial Services.
- Shari'ah related challenges concerning risk management will also be identified and discussed.

The purpose of this study also includes the analysis of the sources of operational risks in Islamic Financial Services; identify these risks in the various modes of finance used by Islamic Financial Services, and to study the practices of these banks for mitigating them. In the process I also hope to identify further research issues and questions pertaining to measurement and mitigation of operational risks for Islamic Financial Services.

II. Literature Review

Conventional banks around the world are undergoing major changes. Their aim is to retain their existing customer base as well as to attract new clients with innovative products and competitive prices. As more and more Islamic banks are opening all over the world or looking into the market, they face similar dilemmas and risks to their conventional counterparts. Any Islamic bank that wishes to operate in a non-Muslim territory has to conduct thorough research of the place and be prepared to offer services that will be both Shari'ah-compliant and competitive from the market point of view Paxford (2010)[2].

Masood (2011, p 43)[3] argues in his book that the operational risk is considered high on the list of risk exposure for Islamic banks. The author further his discussion with the classification of the operational risk and included displaced commercial risk, withdrawal or business risk, governance risk, fiduciary risk, transparency risk, shari'ah risk and reputation risk as the areas of challenges faced by the Islamic banks. Izhar (2010)[4] argues that the Islamic banks face the same challenges as conventional ones, to the extent that they offer financial services in various banking activities Archer and Haron, (2007)[5]; and Hossain, (2005)[6]. At this state, the challenge is fairly similar for all financial intermediaries, whether Shari'ah-compliant or not. However, the challenges for Islamic Financial Institutions are more complicated since the financial activities and the features of the financial contracts are considerably different. According to the Izhar (2010) Islamic Financial Services Board (IFSB) clearly mentions in its publication that Islamic banks are exposed to "a range of operational risks that could materially affect their operations" IFSB, (2007)[7].

It is further argued by Izhar (2010) that unlike the Basel - II's definition on operational risk, in Islamic banks, operational risk is associated with the loss resulting from "inadequate or failed internal processes, people and system, or from external events, including losses resulting from Shari'ah non-compliance and the failure in fiduciary responsibilities. It is understood that the definition of operational risk in Islamic banks entails legal risk Archer and Haron,(2007); Cihak and Hesse,(2008)[8]; Djojosugito, (2008)[9], Fiennes, (2007)[10]; Khan and Ahmed, (2001)[11]; Sundararajan, (2005)[12], and also reputational risk Fiennes, (2007); Akkizidis and Kumar, (2008)[13]. The foremost distinctive feature of this definition, as compared to the definition by Basel - II, is the inclusion of Shari'ah non-compliance risk and fiduciary risk. As a matter of fact, Shari'ah noncompliance risk is considered to have a major portion in operational risk IFSB, (2007). Shari'ah non-compliance risk is the risk arising from Islamic banks' failure to comply with the Shari'ah rules and principles determined by the Shari'ah Board or the relevant body in the jurisdiction in which the Islamic bank operates IFSB, (2005)[14]. The failure to comply with such principle will result in the transaction being cancelled, and hence the income or loss cannot be recognized. The author further argues that fiduciary risk is the risk that arises from Islamic banks' failure to perform in accordance with explicit and implicit standards applicable to their fiduciary responsibilities IFSB, (2005). Therefore, a failure in maintaining fiduciary responsibilities will result in the deterioration of Islamic banks' reputation Hamidi, (2006)[15]. A reputational damage could eventually cause a withdrawal of funds which would result in a liquidity crisis. It could also make customers stop requesting financing from Islamic banks, triggering a downturn in profitability.

Although it is argued earlier that the challenges are somewhat similar, they are only to the extent that Islamic banks and conventional banks are dealing with various banking activities. To a greater extent, operational risk management in Islamic banking requires more thorough understanding of the sources of operational risk from which the loss could occur. The author therefore, proposed that operational risk exposures in Islamic banks could appear based on the following major sources:

1. Shari'ah non-compliance risk;
2. Fiduciary risk;
3. People risk;
4. Reputational risk;
5. Technology risk, and
6. Legal risk.

The relative complexity of contracts, combined with the fiduciary obligations of Islamic banks, imply that for Islamic banks, operational risk is a very important consideration. More importantly, Shari'ah compliance risk as part of operational risk is supreme to Islamic banks, which means Islamic banks must ensure, at all times, that all activities and products are in conformity with Shari'ah principles. Shari'ah compliance also ensures Corporate Social Responsibility (CSR) and ethical compliance. Islamic banks do not conduct business with tobacco, alcohol and other harmful toxic producing companies. This mechanism has given Islamic banking the name of 'ethical banking' in Europe. Islamic financial services and banks only provide asset backed financing and hence essentially finance to create assets. Therefore Islamic banks do not offer credit cards, personal loans and running finance or overdraft. Islamic banks by restricting themselves to asset backed financing cannot provide need based short term financing for overhead expenses or financing for debt swap.

Operational risk is now recognized, as a type of risk which can contribute to major losses in all financial institutions. For this reason, various techniques being applied in banks today in order to measure and manage operational risk. The methods set out by Basel Committee on Banking Supervision (BCBS) help the Islamic banks determine their capital in order to absorb operational losses. However, due to the small size of Islamic banks compared to the overall financial industry, the more advanced methods in the calculation of operational risk based capital is still not feasible to be implemented. The absence of significant amount of loss data is also one of the problems that hamper Islamic banks to implement more complicated methods. Given the rapid growth of Islamic financial industry, it is expected that lack of data will not be the main issue in the near future.

Islamic financial institutions need to implement such policies which regulate the functions for better risk mitigation one of the important issue is Shari'ah board autonomy. Iqbal and Greuning (2008)[16] discussed some issues relating to Shari'ah board. The main issue being its independence from management. They argue that the members of the Shari'ah board are employed, remunerated and approved by the board. They are given a dual relationship which creates conflict of interest. This can lead to loss of confidence on the part of shareholders and other stakeholders that may lead to liquidity and other threats.

As the Islamic banks are newly formed industry, therefore the operational risk in terms of personal risk can be acute in these institutions. Operation risk in this respect particularly arises as the banks may not have enough qualified professionals (capacity and capability) to conduct the Islamic financial operations Khan and Habib (2007)[17]. Particularly the different nature of business, the computer software available in the market for conventional banks may not be appropriate for Islamic banks. This gives rise to system risks of developing and using informational technologies in Islamic banks.

III. Methodology

This study is an exploratory study therefore, based on the literature review relating to operational risk, risk management approaches and risk mitigation techniques. The guidelines issued by the Banking Surveillance Department, State Bank of Pakistan "Guidelines on Stress Testing" (May 2012)[18], including sensitivity analysis and scenario analysis were also studied and the data for operational risk management for Islamic Banks of Pakistan available on their respective websites were used. Most of the data for the study was collected through secondary source. The major part of the data consisting of secondary source was collected through research journals, internet and relevant books. Citation and literature discussion have been the major approach of this study. In the light of the literature discussion five sources of operational risk has been identified and discussed the policies for risk mitigation in the study.

IV. Classification Of Operational Risks

The wide range of operational risk has obviously created difficulties in the analysis of operational risk management. Therefore, it is not simple to develop practical classification for this type of risk.
The following fig. 1 will help us identify the source of operational risk based on five categories; Izhar (2010)

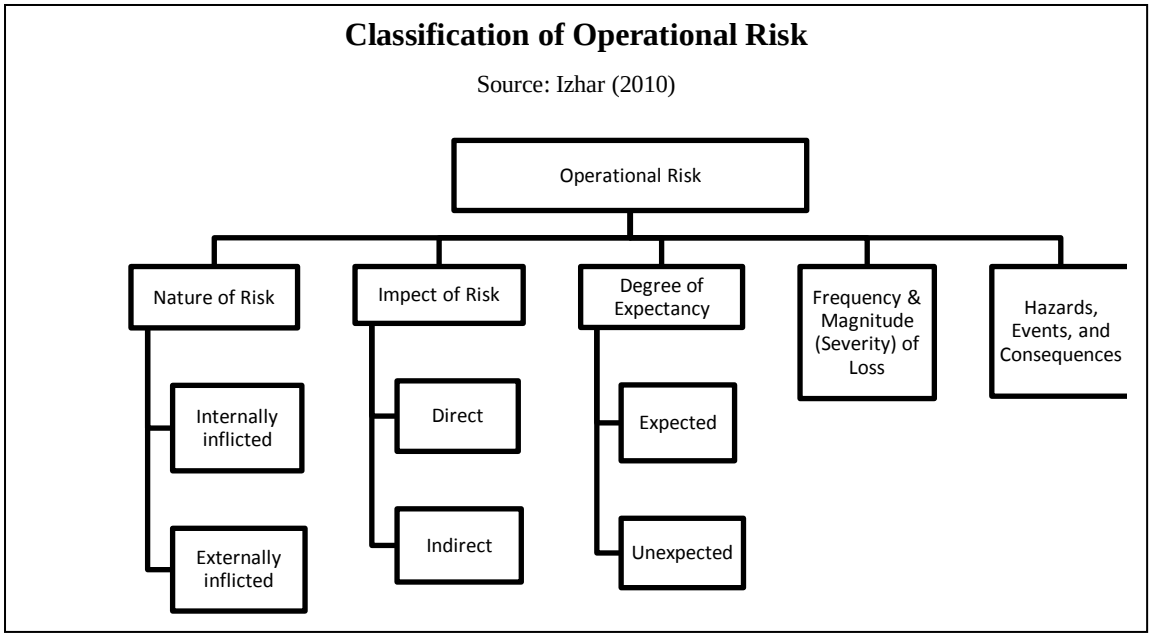


Figure 1

4.1. Nature Of Risk

The classification lay down by Basel Committee on Banking Supervision (BCBS), as discussed by Izhar (2010), internally inflicted operational risks are any intended acts to defraud, misappropriate property or avoid regulations, law, or company policy. This includes intentional misreporting of positions, employee theft, and insider trading on an employee's own account BCBS, (2002)[19]. In addition to that, a failure to comply with *Shari'ah* principles and inability to maintain the fiduciary responsibilities are the operational risk which originates from within the management of the bank. Other internal risks may result from technology risk due to the programming errors, IT crash caused by new application, or the incompatibility contractual features and the technology installed in the system Akkizidis and Kumar, (2008).

The author further argues that externally inflicted operational risks may occur from the incidents such as external fraud, theft, computer hacking, regulatory regime change, and other factors which are beyond the control of an Islamic bank. Many of the internal operational risk can be prevented with an appropriate internal management practices; for example, tightened controls and management of the personnel that can help prevent some employee errors and internal fraud, and also an improved telecommunication network which can help prevent some technological failures. However, external operational risks are rather difficult to prevent.

4.2. Impact of Risk

Direct risk is any risk leading to losses directly arises from the associated events Izhar,(2010). Izhar (2010) further discusses that indirect risk is generally opportunity costs and the losses associated with the costs of fixing an operational risk problem.

4.3. Degree Of Expectancy

The author further explains that some losses due to operational risks are expected; while some others are not. The expected losses are generally those that occur on regular basis, such as minor employee errors and minor credit card fraud. In other word, expected loss is anticipated for the next time period. Unexpected losses are those losses that generally cannot be easily foreseen, such as natural disasters and large scale internal fraud.

4.4. Frequency And Magnitude (Severity) Of Loss

According to Izhar (2010), expected losses generally refer to the losses of low severity (or magnitude) and high frequency. Generalizing this idea, operational losses can be broadly classified into four main groups:

1. Low frequency/low severity
2. High frequency/low severity
3. High frequency/high severity
4. Low frequency/high severity

4.5. Hazard, Events, And Consequences Type

What makes an operational risk analysis so challenging is that because the breadth of operational failures comprise of hazards, events, and consequences. Operational risk hazards, events, and losses are usually associated with internal control weaknesses or lack of compliance with existing internal procedures as well as with the *Shar'iah* principles. Such a lack of compliance can be found in all areas of an institution and is mainly caused by the combined actions of people, technological systems, processes, and some unpredictable events. When a risk event is formulated, the causes or originating sources could be identified, and hence, what consequences that would take place could also be identified. The resulting consequences if the risk is to be 'accepted', 'avoided', or 'mitigated' must also be understood.

V. Conceptual Model

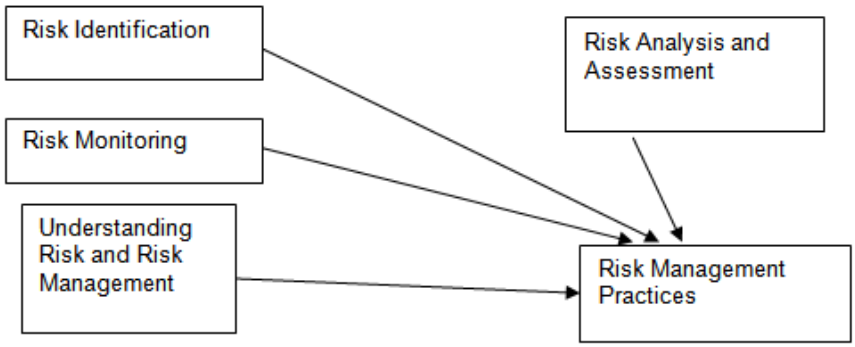
In another article Rosman (2009)[20] presented a comprehensive framework of risk management and states that it is applicable equally to conventional and Islamic banks. The author is of the view that the process of risk management is a two step process. The first is to identify the source of the risk, i.e. to identify the leading variables causing the risk. The second is to devise methods to quantify the risk using mathematical models, in order to understand the risk profile of the instrument. Once a general framework of risk identification and management is developed, the techniques can be applied to different situations, products, instruments and institutions.

It is crucial for Islamic banks (IBs) to have comprehensive risk management framework as there is growing realization among Islamic Banks that sustainable growth critically depends on the development of a comprehensive risk management framework Greuning and Iqbal, (2007)[21]. According to the author a robust risk management framework can help Islamic Banks to reduce their exposure to risks, and enhance their ability to compete in the market Iqbal and Mirakhor, (2007)[22]. A reduction in each institution's exposure will reduce the systemic risk as well. Hence, it is necessary that Islamic Banks have in place a comprehensive risk management and reporting process to identify, measure, monitor, manage, report and control different categories of risks. In addition, this process should pay attention to compliance with Shari'ah rules and principles.

Rosman (2009) states that the relationship between risk management practices and the four aspects of risk management process i.e. (1) understanding risk and risk management; (2) risk identification; (3) risk analysis and assessment; and (4) risk monitoring as in Fig. 2 by making reference to the model adopted by Al-Tamimi and Al-Mazrooei (2007)[23].

Figure 2

Conceptual Framework



Source: Rosman (2009)

According to the author the conceptual framework suggests there is a positive relationship between risk management practices and the aspect of risk management process. Secondly, it suggests the category of risk management processes that influence most of the practice of risk management to be examined.

5.1. Understanding Risk And Risk Management

Rosman (2009) argues that it is important for staff of banking institutions to understand the aspect of risk in the banking operations and the risks that are inherent and exposed in their business operations. Better understanding of risk management is also necessary especially in the financial intermediation activities where managing risk is one of its important activities.

5.2 .Risk Identification

Rosman (2009) argues that there are many other approaches for risk identification, for instance, scenario analysis or risk mapping. An organization can identify the frequency and severity of the risks through risk mapping which could assist the organization to stay away from high frequency and low severity risks and

instead focus more on the low frequency and high severity risk. Risk identification process includes risk-ranking components where these ranking are usually based on impact, severity or dollar effects. Accordingly, the analysis helps to sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently.

5.3. Risk Analysis And Assessment

In his article Rosman (2009), states that there are many conceptual studies made on risk analysis and assessment by reference to measurement and mitigation of risk. In practice, it is useful to classify the different risks according to the amount of damage they possibly cause. The author further argues that frequently, there is an inverse relationship between the expected amount of loss and its corresponding likelihood, i.e. risks that will cause a high damage to corporation, like earthquakes or fire, occur seldom, while risks that occur daily, like interest rate risks or foreign exchange risks, often cause only relatively minor losses, although these risks can sometimes harm the corporations seriously.

According to Rosman (2009), in the context of Islamic banking, few conceptual studies e.g. Sundararajan, (2007)[24]; Jackson-Moore, (2007)[25] discuss the risk measurement aspects particularly on the unique risk. A comprehensive risk measurement and mitigation methods for various risk arising from Islamic financing activities and from the nature of profit and loss sharing (PLS) in the source of funds especially investment account holders (IAHs) are explained by Sundararajan (2007).

5.4. Risk Monitoring

Effective risk management requires, according to Rosman (2009), a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place. Risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring also helps bank management to discover mistake at early stage Al-Tamimi and Al-Mazrooei, (2007). Monitoring is the last step in the corporate risk management process Pausenberger and Nassauer, (2002)[26]. According to them, control has to be established at different levels. The control by the management board will not be enough to ensure the effective functioning of the risk monitoring system, because the management board members do not have time on their hands to exercise extensive control. Hence, the management board will install an independent unit to complete the task of internal supervision. This task is the responsibility of the internal audit. Finally, the shareholders of the corporation can use their rights to demand information in order to judge the efficiency of the risk management system. The director's report enables the shareholders to assess the status of the corporation knowledgeably and thoroughly.

VI. Integration Of The Two Models

The integration of the two models explained above, Izhar (2010), Classification of Operational Risk and Rosman (2009), Conceptual Framework we developed a new model shown in Fig. 3. The integration is discussed in proceeding paragraphs.

6.1. Risk Identification/Nature Of Risk

Risk identification is one of the important steps of risk management practices. The nature of the risk classified as internally and externally inflicted operational risk. A bank can identify the risks through stress testing framework which could assist to stay away from high frequency and low severity risks and instead focus more on the low frequency and high severity risk. Risk identification process includes sensitivity analysis and scenario analysis. Accordingly, the analysis helps to sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently.

6.2. Impact Of Risk / Risk Monitoring

Impact of risk can be direct risk and indirect risk. Risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring also helps bank management to discover mistake at early stage.

6.3. Degree Of Expectancy / Understanding Risk And Risk Management

Rosman (2009) argues that it is important for staff of banking institutions to understand the aspect of risk in the banking operations and the risks that are inherent and exposed in their business operations. The degree of expectancy is very important in the understanding of risk management.

6.4. Frequency And Magnitude (Severity) Of Loss

According to Izhar (2010), expected losses generally refer to the losses of low severity (or magnitude) and high frequency. The losses of high frequency/low severity are relatively unimportant for an institution and

often can be prevented. What cause the greatest damage are the low frequency/high severity losses.

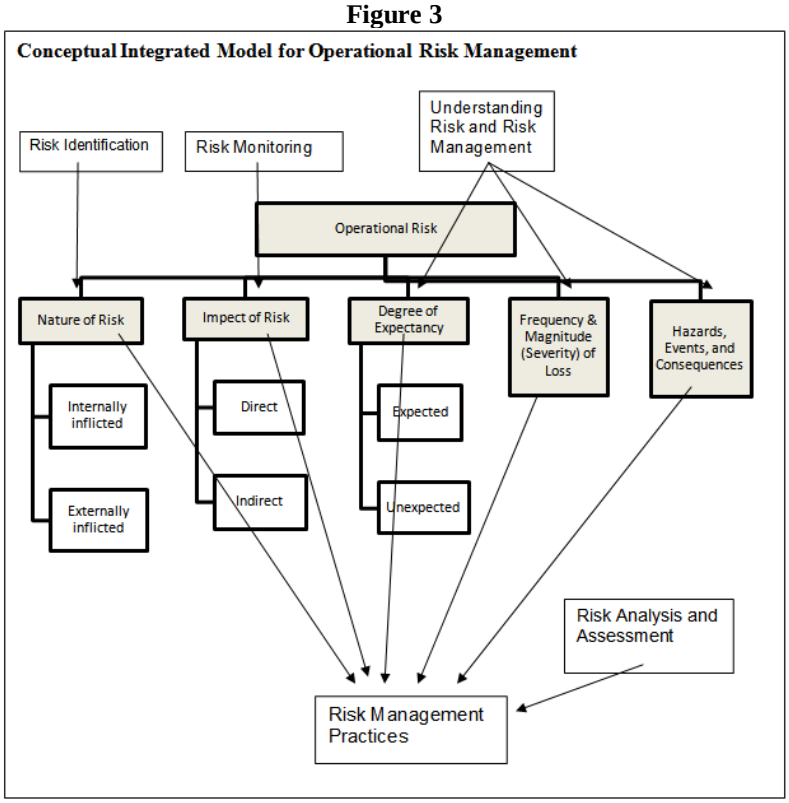
6.5. Hazard, Events, And Consequences Type

A modern operational risk management analysis, as Samad Khan (2008)[27] argues, is based on this multidimensional framework, focusing on the event dimension as the starting point of analysis. Operational risk hazards, events, and losses are usually associated with internal control weaknesses or lack of compliance with existing internal procedures as well as with the *Shar'iah* principles.

6.6 Risk Analysis And Assessment

Rosman (2009), states that there are many conceptual studies made on risk analysis and assessment by reference to measurement and mitigation of risk. In practice, it is useful to classify the different risks according to the amount of damage they possibly cause Fuser, K., Gleiner, W. and Meier, G., (1999)[28].

Figure 3



VII. Conclusion

Operational risk is a new dimension to the list of risks faced by the Financial Institutions. Due to the unique features of Islamic Banks, operational risk is substantially different from what is exposed to the conventional ones. The relatively complex features of IB, including *Shariah* compliance risk and fiduciary risk, operational risk is a very important consideration. More importantly, *Shariah* compliance risk as part of operational risk is dominant to Islamic banks, which means Islamic banks must ensure, at all times, that all activities and products are in conformity with *Shariah* principles.

The methods set out by BCBS help the Islamic banks determine their capital in order to absorb operational losses. However, due to the small size of Islamic banks compared to the overall financial industry, the more advanced methods in the calculation of operational risk based capital is still not feasible to be implemented. Since operational risk events can result into huge losses, sometimes bigger than the ones experienced under credit and market risk events, operational risk related stress tests need to be instituted.

In conclusion, literatures have explained the relationships between risk management practices and the aspects of risk management process. Banks should aim to develop a framework for operational risk management particularly for collecting operational loss data. In respect of designing operational risk stress tests, key indicators, like human errors, frauds, or failure to perform in timely manner, breaching limits, failure of information technology systems or events such as major fires or other disasters may be identified against the business lines. Shocks may be given to these risk events, their frequency and severity of losses. Once the

operational loss events are identified, the level of shocks may be designed by looking into both the historical as well as hypothetical level of losses under those risk events.

Further researches are needed to prove empirically the hypotheses suggested by Rosman, (2009) for Islamic Banks of Pakistan and the factors influence risk management practices can be determined. The implementation date for the stress testing principles was set by SBP as by January 2013 therefore, data on these was not available and the model proposed in this paper could not empirically tested. Hence, the gaps need to be filled by further researching in the area of Islamic banking.

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