Operational Risk Exposure to Islamic Banks

Muhammad Arif
Centre for Excellence in Islamic Finance
Institute of Management Sciences

Dr. Shafiullah Jan
Centre for Excellence in Islamic Finance
Institute of Management Sciences

Amna Kulsoom
National University of Modern Languages

Abstract
The study aims to explore internal risk factors that may lead to overall operational risk in Islamic banks and Islamic window banks of Pakistan. Semi structured interview's through purposive samplings are conducted along with participant's observation. New themes, including windows Islamic banking operations and management goal conflict with Shariah are identified after detailed analysis. The study also identifies new themes in existing phenomena mentioned in literature including Shariah non-compliance risk, people risk, and technological risk. The study contributes to operational risk phenomena and highlights the new sources of risk that need to be managed by operational managers. Furthermore, the study highlights need for control mechanism to facilitate managerial decision in maintaining operational risk profile.
Keywords: Islamic banks, Operational risk exposure

Background of the study

Operational activities of a bank ensure success or failure for both Islamic and conventional banking sector. The past failure of many businesses like Enron, Daiwa, Barings, and Merril Lynch are due to operational failures attracted regulators', practitioners' as well as academia's attention towards the emerging phenomena and its management (Hoffman, 2002). Operational risk consists of wide range of issues and areas that have been defined by several institutions. Amongst these institutions the work of Basel committee on banking supervision is the most considerable. The Basel committee has proposed a new definition to operational risk in their respective consultative papers (Basel III).

The importance of operational risk was realized by industry after the Basel reports. Wide ranges of responses were received

from industry for proposed operational risk definition. The raising importance of operational risk set a portion of capital to compensate losses incurred through operational errors. The issue of operational risk has also been addressed by many authors including Khan and Ahmed (2001), Iqbal and Mirakhor (2007), Akkizidis and Kumar (2008), and Archer and Haron (2007). The operational risk to Islamic banks does not emerge as a surprise, since Islamic banks are operating in a similar structure and environment like conventional banks. However, due to their unique nature of contracts that require more accurate steps and skilled workforce having Shariah knowledge to incorporate at every step, Islamic banks are more exposed to operational risk than market and credit risk (Khan & Ahmed, 2001). There are a limited number of studies which have addressed the issue of operational risk after the development of Islamic banks in Pakistan and introduction of new roles or responsibilities within the existing system of Islamic banks. The issue of operational risk is much complex in its nature and require more in depth investigation in academic inquiry to provide new insights of operational risk with development of Islamic banks. Therefore, this study is an effort to explore new insights to the emerging phenomenon of operational risk.

The study adds to the existing definition of Islamic banks' operational risk. The regulatory body can incorporate the newly explored determinants of operational risk while making their consultative papers for operational risk management guidelines. Further, it enhances the quality of decision making at branch level as well as at head office level. The risk management department can incorporate the new insights of operational risk while managing different types of risk and introducing new management tools to overcome such issues.

Literature Review

Islamic banks are financial institutions offering Shariah compliance product and services. Specific set of rules are prescribed by Shariah for governing operations of these institutions. Islamic banks are strictly prohibited to deal in interest. Financial contracts involved in Islamic banking system should be free of uncertainty. Element of gambling must be removed from every financial activity. Profit is the ultimate motive of every business, while in Islamic banks profit earned must be from Halal sources. Haram sources of revenue generation and economic activities are strictly prohibited like pork products, pornography,

and alcoholic beverages. Every Islamic financial contract must be backed by some real or physical asset which is tangible as well as identifiable. Both parties involved in a transaction must equally share in the consequences of loss as well as profit. All above mentioned points highlight differences amongst Islamic and conventional banks.

The Islamic bank's institutional structure is same like conventional banks in operational point of view. Such similarities are not only reflected on their balance sheets, but also in their regulatory authority treatment in countries where they are operating. Liability side of Islamic banks consists of deposits that can be withdrawn any time. Sometimes at a cost, savings or investment deposits can also be withdrawn. On the other hand, asset side is composed of fixed income debt securities with short term maturities. As liability of Islamic banks is of short maturity, debt based contracts require less control and monitoring as an asset is attached to the contract as guarantee (Archer & Haron, 2007). Nature of debt in Islamic banks is different as compared to conventional banks in regard of underlying asset attachment. Islamic banks are similar in management skills as conventional banks. Islamic banking due to its recent history consists of managers having a background of working in conventional banks.

Like conventional banks, Islamic banks are also facing many risks. Amongst these risks, market risk, liquidity risk, and operational risk are considered vital that directly affect a bank's operations. Operational risk management is a challenging task for both conventional and Islamic banks to reduce chances of loss incurred due to internal human errors, frauds, technological faults, or violation of specific guidelines recommended by regulatory authority. In the context of operational risk, Islamic banks are facing same problems as conventional banks. With raising need of different products in Islamic banking, spread operational activities into various banking activities (Archer & Haron, 2007). These wide ranges of products are offered to facilitate customers' needs and, expose banking sector to higher operational risk irrespective of Shariah compliance. It is more challenging for an Islamic bank to manage and control their operational risk due to the unique and sophisticated nature of contractual features. Thus, Islamic banks might be exposed to a variety of different operational risks which affect its operations materially (IFSB, 2007a: 22). Operational risk is likely to be more significant for Islamic banks due to specific contractual features (Fiennes, 2007).

Risk may be elucidated as the inconsistency of returns associated with a particular asset (Gitman, 2008). Operational risk is a loss or hazard events incurred due to internal and external events associated with bank operations. These events consist of inadequate or failed internal processes, systems or people (BSBC, 2001). The Inclusion of Shariah non-compliance risk and fiduciary risk in Basel 2 provide with a new set of definition for Islamic banks' operational risk.

Operational risk refers to possibility of error in information processing, insufficient documentation procedures, or delay in work completion. Mostly Islamic banks are exposed to risk due to fraudulent actions, non-compliance with Shariah, fluctuation in foreign trade, and sanctuary of documentations (Khan, Ahmed, & Tariqullah, 2001). The definition of operational risk given by Basel report 2013 excludes strategic and reputational risk while includes legal risk (BCBS, 2013).

Operational issues arise as Islamic banks are limited in their liquidity and risk management choices, and tools such as bonds, options, and derivatives. Theoretically it is confirmed that future contracts erected on allowable Islamic commodities are Pareto-optimal and if implemented could show the way to financial deepening (Ebrahim, 2007). In order to manage banking sector's risk of Islamic countries as a whole, respective central banks stipulated a variety of capital adequacy and reserve requirements (CARR). These requirements are not standardized in all Islamic banks around the world (Khan, Ahmed, & Tariqullah, 2001).

As compared to conventional banks, Islamic banks are not using operational risk management tools, a reason being that they are in the early phase of the implementation of operational risk management. Due to the one of its kind contractual features and general legal environment the debate on operational risk in Islamic banks in comparison to conventional banking is gaining importance and turning more complicated (Abdullah et al., 2011). Due to their relatively new born and less immune product types and strict regulatory practices for compliance with the Shariah rules, IFIs are more susceptible to losses, especially operational risk. So, it was generally anticipated that because of greater risk they would have much strict risk management practices (RMP) in comparison to conventional financial institutions (CFI).

Operational risk management in Islamic banks strongly needs to examine many aspects which contribute in operational risk. Certain factors are different from that of conventional banks

due to unique and complex structure of Islamic banks. Keeping in view the complex nature of Islamic banks' structure and nature of contracts, operational risk can be categorized on the basis of following major sources including Shariah non-compliance risk, Fiduciary risk, People risk, Technology risk, and Legal risk**.**

Shariah Non-compliance Risk

It emerges from failure of Islamic Financial Institutions (IFIs) to comply with principles and rules of Shariah determined by Shariah board or any other relevant body under jurisdiction in which IFIs are operating (IFSB, 2005a: 26). For every Islamic bank Shariah compliance is necessary in every transaction to ensure permissibility of Shariah. To ensure Shariah compliance, IFIs are required to have adequate systems and internal controls like Shariah board or Shariah advisors (IFSB, 2005a: 27). Compliance with Shariah needs to be reflected in the products of Islamic banks as well as in the overall culture of Islamic banks. Islamic financial services board prioritized Shariah noncompliance risk on the top of other operational risks associated with Islamic banks. Violation of any Shariah rules would lead to an illegitimate profit earned by Islamic banks. Ensuring Shariah compliance in products, activities, and documentation for formation or termination of any contract is necessary for operational risk management (Aziz, 2006).

Fiduciary Risk

Islamic banks are bound to follow their investment mandates and avoid loses due to their negligence or breach of any authoritative restrictions. It also indicates failure of Islamic banks to perform according to implicit and explicit standards applicable for fulfillment of fiduciary responsibilities (IFSB, 2005a: 27). Higher degree of earnings' volatility is indication of such failure where banks are unable to meet demands of current account holders for repayment of their funds. Islamic banks also need to preserve interest of all investments account holders (IFSB, 2005a: 2). The failure of Islamic banks to ensure the bases of assets, revenue, expenses, and profit allocations in accordance with fiduciary responsibility leads to fiduciary risk (IFSB, 2005a: 27). In short words preserving trust from all fund providers can overcome fiduciary risk. It involves ensuring of Shariah compliance in products and reflection of sound financial performance to gain trust of fund providers.

The element of trust between fund providers and Islamic bank differentiate Islamic banking system from conventional one (Iqbal & Mirakhor, 2007). Failure of Islamic banks to align objective of shareholders and investors with actions they were supposed to take would lead them towards fiduciary risk. Fiduciary risk also affects bank costs and access to liquidity. The mismanagement of current account holder's funds and allocation of excessive expenses to investment account holder's funds also leads to fiduciary risk. This also leads to reputational risk which is a part of operational risk (Greuning & Iqbal, 2008).

People Risk

It is another type of operational risk emerged from internal frauds that leads an Islamic banks to potential losses. People risk consists of frauds, lack of expertise, and human errors (Akkizidis & Kumar, 2008). People risk in Islamic banks is considerably higher than conventional banks because work force needs to have knowledge of both Islamic and conventional banks (Ebrahim, 2007). Islamic banks need to be equipped with new innovators and product developers who have strong understanding of Shariah as well finance (Aziz, 2006).

Workforce of Islamic banks needs to be aware of different alternative products allowed by Shariah and also have awareness about commercial advantages and disadvantages of Islamic products over conventional products (Nienhaus, 2007). Nevertheless, unavailability of skilled workforce in Islamic banks would ultimately lead towards people risk (Jackson-Moore, 2007). In order to meet diversified need of Islamic banking industry, existing workforces are strongly required to design and invent Shariah compliant products to meet diversified needs of customers.

Technological Risk

The operational activities of Islamic banks are also dependent upon technology in modern era of banking. Mostly, timely decisions by management regarding development and industry changes are impossible without strong technological system or database. The development of technology brings new source of operational risk to Islamic banks.

Islamic banks fail to upgrade technology for sophisticated client's requirement, regulatory changes or failure of transforming internal information to useable knowledge causing technology risk (Chorafas, 2004). The incompatibility of existing accounting software to meet the requirement of Islamic banks leads to

technological risk. Further, error incurred by existing employees or any manipulations through software's by internal employees also contributes to technological risk (Chorafas, 2004). The use of new technological system, IT crashes or incompatibilities of existing technology to cope up with business requirement of banks witness operational risk (Akkizidis & Kumar, 2008). The extensive use of technology also lead to operational risk related to IT from internal and as well external sources.

Information technology is an important factor along with other production factors in modern era of business. Technology play an important role in increasing efficiency and effectiveness of organization to satisfy customers' needs in advance manner. Thus, benefit of advance technology in modern era cannot be denied by organization. With development of advance technology, risk management plays a vital role for safeguarding confidential information. Hence effective risk management is vital part of IT security program in organizations. Different organizations have different goals and accordingly IT is used for accessing information in better way to fulfill their mission (Tohidi, 2010). Most successful IT system depends upon effective risk management. With advancement in technology, vulnerabilities and threats face by IT system is a challenging task for management to curb these issues. People running process of organization through IT can ensure achievement of business mission. The aim of achieving mission of organization is possible with the trained users of technology along with management support.

Legal Risk

Another important risk that causes operational risk is the legal aspects of banking. The newly adaptive techniques with development of new products significantly expose banks to legal risk. Most Islamic banks are operating across different regions and countries with different legal systems. Mostly banks are exposed to country specific risks that vary from one territory to another territory. Hence, it can be argued that uncertainties in law leads Islamic bank to legal risk (Kumar, 2008).

Unexpected changes in regulation and law expose Islamic bank to legal risk (Djojosugito & Rez, 2008). The uncertainty in interpreting different Islamic contracts, by less qualified experts causes legal risk (Cihak, Martin, & Heiko, 2008). A recent study by Woods (2009) explains that central government policies, information and communication technology, and organizational

size of a bank are the variables affecting risk management system at the operational level. Any possibility of loss arising as result of weak internal processes, people, and systems or from external events is called operational risk (BCBS, 2001). Referring to this definition it is implicit that in Islamic banks, operational risk also consists of legal risk and reputational risk (Archer & Haroon, 2007).

The existing literature on operational risk highlights limited amount of work carried out in this specific field and especially in Pakistan. The major sources of operational risk including Shariah noncompliance, people risk and technological risk are not explored in detail. There exist blurred concepts regarding these types of risks and policy makers are ignoring it. The study intends to explore these concepts to identify key issues related to operational errors in Islamic banks of Pakistan.

Theoretical framework

The literature has classified operational risk in to five major components including Shariah noncompliance risk, people risk, technological risk, legal risk, and fiduciary risk. These risks effect Islamic banks operations individually or collectively and lead to losses. Operational risk can be map in the following manner given below in figure 1 as according to literature.

Figure 1. Framework

Research Methodology

As study conducted is a qualitative in nature that addresses answers of "Why" and "How" (Shavelson & Lisa, 2002) and

consist of two methods for data collection. First one is semi-structured interviews and second one is participant observation (Becker, 2000). Case studies are suitable for carrying out research in a complex setting because advancement of concept in complex settings cannot be reduced to single cause and effect relation (Anderson, et.al., 2005).

World view is a basic set of beliefs that direct action (Guba, 1981). World views are named ontology, epistemology, or paradigm (Lincoln & Guba, 2000). These views are actually researcher point of view in his/her opinion regarding research nature and world (Creswell J. , 1998). Choosing a paradigm is a sensitive step and the researcher will be careful to choose a specific paradigm according to the research questions and objectives which lead to a suitable methodology (Kapoulas & Mitic, 2012). In this study critical realism approach was adopted and the respondent views were interpreted without any biasness of the researcher. Case study method applied in the study was supported by paradigm as semi structured interview method was used (Bisman, 2000). The focus of study is to explore the key determinants that give birth to operational risks in Islamic banks due to their internal operations and structure. According to social realists social conditioning is a source to knowledge of reality which was the core investigation of study.

The study conducted was qualitative having inductive essence following the study by Spencer *et al*., (1994) and Dey 1993. As the study is inductive in nature, the purpose of qualitative study is exploratory in nature. Such, studies are appropriate where a researcher formulate theory through observations at the end of research (Goddard & Melville, 2004). Organizations taken for the study are Islamic banks form KPK including full fledge Islamic bank and Islamic window operating bank. In this study the focus is on a single case of Islamic bank exposure to operational risk. It is kept as a single case because focusing on a single case allows careful attention to that case and significant contribution to knowledge and theory building (Yin, 2003).

Unstructured interviews are held for data collection in this study. The purposive or judgmental sampling technique has been used to interview ten respondents amongst which six are from full-fledged Islamic bank and 4 from Islamic window bank.

Data Analysis and Results

In analysis results are drawn from transcribed data through themes likely identified by Yin R.K (2009). This section also described case under investigation through comparison of past literature with existing practitioner's views. Further, study aims to identify new grounds for phenomena under investigation which will be onward discussed.

Data collected through sample of ten respondents from different Islamic banks is subject to coding (Miles & Huberman, 1994). For the purpose of this study, data has been organized from interview transcription that leads to codes to make sense to data. For proper categorization of data and to avoid complexity it is mandatory to define codes (Dey, 2003). So, in the analysis all the constructs have been categorized into codes**.** Coding of similar phenomena's from transcription is done manually as described in a table below.

Themes identified

Primary themes identified from transcription of interviews are mentioned below in table.

Table 1. *Primary Themes*

Construct Description	Construct Code
Shariah noncompliance risk	SNCR
People risk	PRS
Employees related risk	ERR
Management related risk	MRR
Technology risk	TRS
Windows Islamic banking system risk	WSR
Management goals conflicts with Shariah	MGCS

Primary themes highlighted in above table explore factors contributing in emergence of operational risk. Amongst the highlighted factors few were previously highlighted by literature as direct sources of operational risk like Shariah noncompliance risk, people risk, and technological risk. While identification process of primary themes provided two new sources to operational risk including windows operations of banks and management goals conflict with Shariah objectives. This study split people risk into two parts consisting employees risk and management level

employee's risk. Further, each construct will be discussed with respect to past literature in discussion onward in this chapter.

To overcome the similar meaning of different themes that ultimately leads to same phenomena are grouped together to avoid repetition. The newly identified constructs will be discussed in onward section.

Discussion

The previous discussion in literature highlight those factors that are previously discuss by some of the studies. The existing study aims to explore new insights to operational risk in context of Islamic banks operating under the Jurisdiction of State Bank of Pakistan. The new insights obtain from extensive analysis are discussed below.

Shariah Noncompliance Risk

Lack of Shariah Knowledge: Operational risk contracts in Islamic banks require clear and detail catalogue prepared by Shariah scholars to reduce chances of Shariah noncompliance risk. Islamic banks mostly incur operational error due to lack of pre design system. The use of modified conventional products with few changes and dependency over their developed technological setup leave is related to operational process of different department's employees including operational department, Shariah department, credit department, and human resource department. The rules of Shariah and regulatory authority need to be followed by different units' human resource in different business process. Employees' lack of proper knowledge regarding Shariah rules with respect to contracts and business operations has witnessed Shariah risk. This is particularly evident in banks with Islamic window. The physical and operational similarity with conventional banks along with less knowledgeable mangers who cannot differentiate amongst the two banking system in Pakistan has created misconception in society. Internal Shariah framework should be strong to overcome the Shariah risk and errors incurred by employees. Practically in market, Islamic banks are composed of less knowledgeable human resource that is the ultimate cause of Shariah violation at different transaction level.

Weak Shariah Matrix: The implementation of Islamic banks complex nature of procedures exposes Islamic banks more to operational risk. The execution of complex deficiencies in incorporating all Shariah requirements. Islamic banks failure to

develop comprehensive guidelines of every product in the form of Shariah matrix may exposes their operations to Shariah noncompliance risk.

Weak Authoritative Line: The chances of operational risk in the developmental activities in Islamic banks are very few due to Shariah board presence. The less control of Shariah audit over operational activities incurs operational risk. The political influence of management and Board of Directors on Resident Shariah Board Member is a major reason of Shariah risk where the void transaction carried out is considered right for safeguarding interest of management.

Complex Nature of Contracts: The lesser complexity on deposit side have less chance of Shariah risk, while at financing side there are more chances of operational risk. The complexity in products offered required different steps to be followed in a sequence. The violation of any Shariah rules in following a sequence is always on behalf of employees.

Unavailability of Extra Facilities: The deposit sides of Islamic banks are facing operational risk due to current accounts holder needs for extra facilities that is not permissible by Shariah Further the existing technology of Islamic banks does not incorporate to adjust extra facilities to current account holders due to Shariah restrictions. The Islamic banks are aimed to distribute actual profit earned at every 31st of the month. The failure to allocate expenses to the respected pool profit on timely bases and restrictions on extra facility to current holders is considered as Shariah noncompliance risk.

Inexperienced RSBM: The Resident Shariah Board members having less knowledge regarding banking practices may demand sometimes incentives that are not permissible according to banking rules. Further, the RSBM hired according to fit and proper criteria as prescribed by regulatory authority ensure less chances of errors while carrying out Shariah investigation in transaction or any issue. The focal point of consideration is the ability of RSBM to highlight the issue and report it to the relevant body. Such authentic reporting line help in addressing Shariah as well operational issue in daily transaction.

Islamic Terminologies for Software: Conceptual frame work of Islamic bank should be structured under umbrella of Shariah to control Shariah risk. This frame work consists of product development, accounting software, structure of Islamic bank, and human resources knowledge according to Shariah rules.

There is dire need of software that incorporates Islamic terminologies to record transactions for newly developed products and overcome misconception of consumers by clearing the blurred line amongst the two parallel system of banking in Pakistan. To incorporate these different terminologies in software of Islamic banks, skilled human resource of IT are required. The employees involved in software development are mostly from conventional banking system and have no knowledge of Shariah rules. These deficiencies in software ultimately lead Islamic banks to make an operational error. Lack of Shariah rating is now a debatable issue which contributes in operational risk. This Issue is highlighted by current system but there is no focus on this issue to develop a technological system for this.

People Risk

People risk is discussed in much detail because the overall operations of Islamic banks are carried out by humans who are the main source to operational errors.

Employees Related Risk: The less confident employees of Islamic banks who are lacking Shariah knowledge is the key source of incurring operational errors in routine tasks. Existing employees, who lack the depth of knowledge regarding Islamic banking, misguide customers with sole purpose to raise deposits leading to reputational risk as well loss of customer portfolio. To tackle these issues awareness of sales staff is necessary regarding Islamic products and also to train them about the documentation requirement along with Sharih requirement for different transactions. Islamic banks contract required many documentation to follow Shariah rules at different steps. Working force of Islamic banks having less knowledge regarding Shariah often make error in following the sequence of more documents.

Sometimes, Shariah violation is on behalf of client or agent at the time of purchase. Every transaction in Islamic contracts needs to follow certain steps, however; if the order of those steps is not followed either by client or bank or even system would be source of operational risk. The dual knowledge of employees consist of both Islamic and conventional banks are creating less chance of operational errors. The key root to every operational error is human being in one way or another way. Technology is itself creating a risk but, in neutral sense untrained people who are using IT system is the major reason to technological risk. Therefore, existing employees should be trained about use of

advanced technology. Trainings are required about how to learn the mechanism of Islamic contracts at different schemes of asset back financing. Sometimes, employees having full knowledge of Shariah also create operational risk due to unavailability of time or work load. Proper knowledge, communication skills, and learning sources are necessary for manpower to overcome operational risk created by human source.

Management Related Risk: Manager and operational manager having no knowledge or incomplete knowledge regarding Islamic banks fail to portray distinctive image of Islamic banks with respect to conventional. Operations of both Islamic and conventional bank are the same in regard of their investment, financing and physical structure. The only distinctive feature of Islamic banks is the enforcement of Shariah rules in every transaction. Beside the bank internal operational risk, perception or the misconception of the general people also cause operational risk. The main difference between these two systems is not clearly reflected in the society. To overcome misconception general public should be aware of the definition of *Riba*.

The profitability motive of management sometimes scarify ethical standard while promoting irrelevant people for managerial post in Islamic banks. The managers appointed for Islamic banks should be trained and have enough information regarding Shariah to solve queries of customers. It's the responsibility of management to educate staff about Islamic banks products and their features. Further, responsibility of management is to launch Shariah as well operational level trainings for workforce at national and as well international level.

The misuse of confidential information provided to outside party create a problem for banks and lead them to a serious problem. Mostly information accounts are taken for taxation purpose or verification. There should be a strategy for present and future need of preferable and profitable products. Islamic Banks should be capable enough to have a flexible system that can adopt new products that are not available in market. To overcome operational risk of Islamic banks it's necessary for management to educate customer's as well existing human resource regarding nature of products and transactions of Islamic banks. Hence, it can be argued from above discussion that lack of software, skilled full human resources and awareness are major determinants for an Islamic banks operational risk.

Technology Risk

Profit Distribution System: Technology is must for transforming Shariah rules to profitable products according to needs of Islamic bank. Expert man power and market are necessary for the products of Islamic bank to overcome operational risk. The huge amount of risk is associated with a distributing system of profit. In a centralized manner of distributing income greater supervision is involved. Without a suitable technology profit distribution is not possible. As money of the depositors is taken on *Mudaraba* or *Musharaka* bases and bank is bound to pay every penny of the customer. Such distributive system is only possible with a system that can count it for banks. Sometimes, systems generate term deposit profits two times due to technical issue. There is extensive dependency of banks upon IT system for execution of their operations efficiently. The existing technology or software's used by Islamic banks are facing problems and difficulties in distributing system which needs appropriate software. Technology is same for all users of Islamic banking industry. There is IT team who can incorporate any type of changes or can overcome any issues related to technology. The incompatibility of accounting software with new development is not considered as technological risk by current bankers.

Log System: Log system is used for knowledge transformation into meaningful information. It's fitted into bank existing technology system that defines the daily activities, and also how to perform different task at larger banks e.g. HSBC has log system to record and define daily activities. Further, it provides solutions to different issues regarding operational activates. Islamic banks in Pakistan are lacking developed log system to define operational process. As it is claimed that Islamic bank is playing a role of "Ameen" therefore, these banks should carefully invest the money of deposit holders and have a proper check for every activity. Thus, log system can contribute a lot in removing the operational errors to safeguard the interest of deposit holders.

Technological Security Risk: The dependency of Islamic banks on internet is a major source of technology risk. Financial dealings should not be leaked out the general public or hackers that are processed through bank server. The use of internet is mostly for updating their software's and for email purpose. The hackers can enter into security holes, spams or through fishing. Thus, personal data is accessed by outside users. The use of software is not recommended for "no" wise people to avoid technological risk.

The combination of system, networks, routers, and switches having their respective vulnerabilities makes the technology of banks. The combinations of these vulnerabilities make a system to access threat associated with banks systems. At system level updates appear whose vulnerability is maintained by companies such as Microsoft. Hackers enter through a loop hole into a system and threaten the IT system. In short words monitoring of system vulnerability is must to overcome technology risk. Fire wall and antivirus are needed to be updated. Mostly bank have intuitive deductive system, prevention system and six log systems for monitoring different technological activities. The amount of risk is accessed through Penetration testing for checking where vulnerability exists and how it can be exploited.

Shariah Specific Software: Like conventional banks Islamic banks are lacking software's that can automatically provide information about their different contracts or system created order form which can help out in detecting order forms sequence. There is strong need to develop existing system and software to incorporate sophisticated requirement of Salam, Istisna and other contracts according to client needs to overcome operational risk. Islamic banks are lacking in this area to introduce data base, tools and programming for separate Islamic accounting software that clearly portray an Islamic perception of Islamic banks. Failure of Islamic banks to execute online transaction under down network is a type of technological risk associated with bank system.

Automated Order Forms: Islamic banks lack technology for automatic detection of dates or steps of every Islamic contract; all these steps are mostly checked out manually. Technological risk exists on financing side where client do purchases on bank's behalf. Sometimes, delivery is made in after office time of a bank where they cannot report arrival of commodities to bank. There should be technological systems which incorporate such issues. System automated order form should be introduced where dates of order form cannot be manually changed. It will help out in checking sequences of documentation which is recommended by Shariah. Receipts of purchases and delivery or acquisitions date can be compared with system generated order form. Islamic banks are in need of a system which can automatically alert about the sequence of every document involved in Islamic contracts to overcome operational issues.

Advancement in technology is an operational risk but in a neutral sense. The introduction of flat belt printers replacing the

stamps, and receipts were new innovations to banking industry. It reduced chances of frauds and eliminated unfair practices and overcome this operational risk. Banks use banking application which is authorized and are used by expert's human resources. Putting extra and confidential information into software can lead to technology risk. Technology itself does not create risk but the user of it creates risk, if he/she does not know how to use it accurately. Incompatibility of existing accounting software regarding entries of different contract is not considered as a technological risk because it depends upon the vendor. Banks mostly operate upon the regulatory requirements as per state bank guide line. Any changes recommended by regulatory authority are adjusted in existing accounting software through vendors.

Regulatory changes must be incorporated in existing softwares. If there is unavailability of proper software to do "Feedka" report banks use manual recording and mostly incur operational risk. Feedka simply an IT terminology which refers to do incorporate changes in accounting system through vendors from whome software is purchased. Manual attendance system and customer in and out were technological risks that were overcome with introduction of new technology. Job description mostly is used for how to carry out activities and what activities are needed to carry out, if any of the employee is absent. Technology itself is creating a risk but in neutral sense while untrained people who are using IT system can be the major reason to technological risk. Skilled IT users are the key to overcome technological risk associated with complex use of technology.

Windows Islamic Banking Operations

Recent development in Islamic banking regulations allowed Windows Islamic banking operations in Pakistan. Many banks were offered licenses to start windows operations across the country. Islamic windows system of banks has many disadvantages that are continuously exposing them towards operational risk. This system consists of experienced staff of conventional banking setup. The main aim of these less knowledgeable employees in Islamic banking operations is to generate business under the competitive environment which leads Islamic windows system to violate Shariah. Mostly funds are acquired from parental conventional bank at the time of deficit to fulfill need of customers at the cost of Shariah violation. Major risk associated with windows Islamic bank is the reflection of negative image in society. Operational

activities of windows system are not that much strong as compare to full fledge Islamic banks. There exist lack of expertise, clear guidelines and system that can accommodate required needs of Islamic banking and reflect a distinctive image of Islamic bank. Currently the misconception related to Islamic banks rises from general public is due to windows Islamic banks. The existing conventional banks use windows Islamic banking as a tool to retain their existing customers by providing them both options of conventional and Islamic banks. These banks maintain their clients portfolio at the cost of misconception generated in mind of general public. The full fledge Islamic banks are facing reputational problems in market due to windows Islamic banks. There is strong need of regulatory intervention to move towards subsidiary Islamic banking system.

Management Goals Conflict with Shariah

Management is always concerned about the development goal of an Islamic bank. They are always trying to capture maximum business from market and provide attractive rate of returns to retain investment account holders. There exists another authoritative line of resident Shariah board member (RSBM) in Islamic banks for ensuring Shariah compliance in every transaction. The role of Islamic bank is of trustee to ensure halal investment and earnings approved through RSBM. These authorities have different goals that contradict with each other in different ways and leads to operational errors. Operational level employees are bound to follow the two authorities which contradict in their ultimate goals. Thus operational activates carried out sometimes incur operational errors. The authoritative body, State Bank of Pakistan, has defined clear guidelines for defining roles and responsibilities of these authoritative lines but still management have strong influence upon RSBM's. State Bank of Pakistan needs to take corrective actions for resolving the conflict against these two authoritative lines to ensure sound and risk free operations of Islamic banks.

Revised theoretical frame work

After detail analysis of practitioner views detail form of revised theoretical frame work is proposed below. This frame work provided detail insight of operational risk sources emerged from different internal sources of Islamic banks operations. To draw suitable design of frame work codes were used for primary and secondary themes display. This frame work proposed new

insights to operational risk of Islamic banks. Further it highlighted those sources of operational risk that emerged with new developments in Islamic banks.

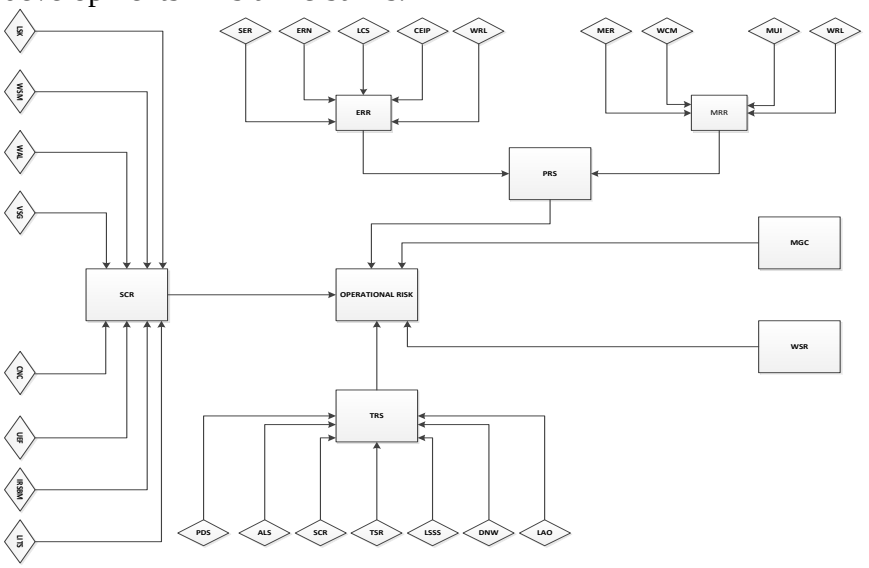

Figure 2. Revised Theoretical Framework

Newly developed theoretical frame work suggest thematic map of operational risk determinants emerged through various sources in Islamic banks. The previous literature on Islamic banks operational risk exposure have highlighted Shariah noncompliance risk, people risk, fiduciary risk, legal risk, and technology risk as a major sources of operational risk. The emergence of Islamic banks is at development stage and limited numbers of studies had highlighted in-depth analysis to new phenomena of operational risk in Pakistan. This study identified new primary and secondary sources of operational risk through exploring gap identified from past literature.

Existing frame work of the study identified two new major sources to operational risk including windows Islamic banks operations and management goals conflict with Shariah or Shariah advisors. It also identified new roots to Shariah noncompliance risks, people risk, and technological risk emerged with developments of Islamic banks that were not previously highlighted by literature. Further, it classified people risk into management level employees risk and lower level or subordinate employees risk who are actively involved in routine operational tasks. This attribute of the frame work would help future

researchers and decision makers while proposing mitigating tools for people risk. The overall framework contributed to existing definition of operational risk, Shariah noncompliance risk, People risk, and technological risk.

The above mentioned discussion provides in-depth analysis of operational risk exposure to Islamic banks with recent development in Pakistan. There exist a gap between past literature of operational risk and actual operational risk that exist in the Islamic banking industry under Pakistan culture. This study provides new insights to the phenomena of operational risk and also explores the existing views of different authors. Operational risk does not remain as simple as it was in the past, operational managers need to have advance knowledge for measuring as well controlling these risks.

Conclusion and Implications

The phenomenon of operational risk to Islamic banks is similar to the conventional banks with few additional features due to Shariah rules. The complex nature of Islamic contracts and extra requirement for every transaction expose Islamic banks to operational risk. The extra requirement of Shariah sometimes expose Islamic banks to Shariah noncompliance risk due to untrained employee's operating at various level of Islamic banks. Beside the importance of Shariah rules, technology is also important component effecting operational performance of Islamic banks.

The well-known sources of operational risks including Shariah noncompliance risk, people risk and technological risk do not remain simple as prescribed by earlier studies. Existing study contribute to the knowledge quantum of these three factors. The violation of any Shariah rules by less knowledgeable workforce at overall bank level or inexperienced RSBM cause Shariah noncompliance risk. The absence of Shariah matrix for ensuring Shariah compliance in complex nature of Islamic banking products and weak authoritative lines for ensuring these Shariah steps are effectively contributing to operational risk. Islamic banks operating as a parallel system with conventional banks in Pakistan have created a wrong image in mind of general public and have failed to portray an Islamic image due to their outlook, structure, name, and software's terminologies. Further, Shariah rules have limit Islamic banks to provide extra facilities to current account holders. Such limitations of Islamic banks are repellent features to attract current

account holder's deposits in a competitive market and expose Islamic banks to operational risk.

The human beings play an important role for executing different tasks on daily bases and they are subject to error if they are untrained regarding execution of different tasks at management and operational level. The operations of Islamic banks required efficiency along with effectiveness to provide good rate of returns to investment account holders and also maintain the investment mandate of Shariah by providing halal income. The rotations of employee's at various operational levels are prone to error due to work load and ineffective communication channels. These errors are the ultimate cause of illegitimate profit and scarify investment account holder's rights over profit. The Islamic banks required an efficient communication channel for timely corrections of Shariah violation before execution of a transaction. The role of management is vital while making products, information disclosures to stakeholders, and ensuring Shariah compliance culture in an Islamic bank. The failure of management at any sphere of Islamic banks operations can directly expose Islamic banks to operational risk.

The Islamic banks operations are highly depended upon the use of technology with the new development and raising need of internet banking. In recent era one way or another way Islamic banks are in touch with use of technology which need to be manage correctly by skill full users to avoid operational loses and safe guard the interest of shareholders and investment account holders. The raising complexity and fair distribution of profit as prescribed by Shariah require a system or program that can actually allocate right portion of profit to justify distribution mechanism. The failure of such distributive system directly affects operational risk. The roles and responsibilities at every business unit at a bank need to be defined through a proper log system. Islamic banks operating in Pakistan lack developed and computerized log system that can be access by every employee while executing their routine tasks. The existing technological systems including different software are not much competent to incorporate sophisticated client requirement for calculating daily taxes for a single customer or any specification in Islamic contracts. Such failure of Islamic banks forces their loyal customers to opt for other banks. The extensive use of internet for online baking and emailing purpose expose Islamic banks to security threats in form of virus, and hacker's access to banks

confidential data. The most important technological risk is the unavailability of Shariah specific software that incorporates the requirement of all Shariah based contracts transaction and portray an Islamic image to distinguish amongst conventional and Islamic banking software. The use of such software's would automatically ensure different Shariah steps in different contracts and will avoid Shariah restriction by human beings.

There exists strong misconception about Islamic banks operations in the mind of society. This misconception is the ultimate cause of less knowledgeable workforce of Islamic banks and structure of Islamic banks. The regulatory authority in Pakistan allows windows Islamic banking to boost this sector but it had created confusion in the mind of society. These windows system as a part of conventional banks reflect a negative repo of Islamic banks because it lack to portray Islamic image to market due to untrained staff and outer look. To overcome such operational risk that emerged through misconceptions created by windows Islamic banking, regulatory authority in Pakistan needs to move towards subsidiary Islamic banking. The management and Shariah board are the two authoritative lines having different goals at bank level. The conflict of goals amongst these two authorities in Islamic banks may witness operational errors.

The overall discussion can be sum up by arguing that an Islamic bank does not remain simple as it was in the earlier days. The development of new products and raising complexity of Islamic banks operations have exposed the existing industry to new types of operational risk including windows Islamic banks operations and management goals conflict with RSBM's and Shariah board. Further, new insights identified for already existing phenomena earlier in the analysis chapter need to be taken into consideration by management of Islamic banks and also regulatory authorities. The regulatory authority need to take corrective actions in eliminating all new types of operational errors and support Islamic banking industry to safeguard the interest of investment account holders and also shareholders of Islamic banks.

References

Akkizidis, & Kumar. (2008). *Financial Risk Management for Islamic Banking and Finance.* Hampshire: Palgrave Macmillan.

Allen, & Linda. (2004). *Understanding Market, Credit and Operational Risk - The Value at Risk Approach, Blackwell Publishing, US.* Black well publishing.

Anderson, E., & chmittlein, D. C. (1984). Integration of the Sales ntegration of the Sales Force: An Empirical Examination. *Rand Journal of Economics 15 (3)*, 385-95.

Archer, S., & Haron, A. (2007). Operational Risk Exposures of Islamic Banks. *John Wiley & Sons (Asia) Pte Ltd.*

Aron, R., & Liu, F. (2005). Determinants of Operational Risk in Global Global Sourcing of Financial Services. *Brooking trade forum*, 373-398.

Aziz, Z. A. (2006). Building a Robust Islamic Financial System.

Bakos, Y., & Erik, B. (1993). From Vendors to Partners: Information Technology and Incomplete Contracts in Buyer-Supplier Relationships. *Journal of Organizational Computing 3 (3)*, 301-28.

Baxter, P., & jack. (2003). *The development of nurse decision making: A case study of a four year baccalaureate nursing programme.* Hamilton: McMaster University.

BCBS. (2003a). *The New Basel Capital Accord.* Bank for International Settelment.

BCBS. (2013). *Progress in adopting the principles for effective risk data aggregation and risk reporting.* Bank for international settlement.

Becker, H. S. (2000). Generalizing from case studies. In E. W. Eisner, & A. Peshkin, *Qualitative inquiry in education: The continuing debate* (pp. 233-242). New York: Teachers College Press.

Bhaskar, R., Archer, M., Collier, A., Lawson, T., & Norrie, A. (1998). *Critical Realism: Essential Readings.* London: Routledge.

Bisman, J. E. (2000). The critical realist paradigm as an approach to research in accounting. *Information System Journal*.

Blacker, K. (2000). Mitigating Operational Risk in British Retail Banks. *Palgrave Macmillan Journals*, 23-33.

Bromley, D. B. (1986). *The Case-Study Method in Psychology and Related Disciplines.* Great Britain: John WIley.

Brown, S., & Goetzmann, W. (2008). Mandatory disclosure and operational risk. *The journal of finance*, 2785-2815.

Brown, S., Goetzmann, W., Linga, L., & Schwarz, C. (2008, December). Mandatory Disclosure and Operational risk. *The Journal of Finance*, 2785-2815.

BSBC. (2001). *Sound Practices for the Management and Supervision of Operational risk.* Bank for International settlement.

Burchell, S., & Clubb, C. (1985). Accounting in social context: Towards a History of Value Added in the UK. *Accounting, Organizations and Society, 10*, 381-413.

Chorafas, D. N. (2004). *Operational Risk Control with Basel II: Basic Principles and Capital Requirements.* London: Oxford.

Cihak, Martin, & Heiko, H. (2008). *Islamic Banks and Financial Stability.* Washington: International Monetary Fund.

Clarke, L. (1999). *Mission Improbable.* Chicago: University of Chicago Press.

Clough, & Peter. (2002). *Narratives and Fictions in Educational Research.* Buckingham: Open University Press.

Coase, R. (1937). The Nature of the Firm. *Economitrica*, 386-405.

COSO. (1991). *Internal Control: Integrated Framework, Committee of Sponsoring organization of the treadway commission.* Chicago: University of Chicago Press.

Cousins, C. (2002). Getting to the "truth": Issues in contemporary qualitative research. *Australian Journal Of Adult Learning*, 192-204.

Creswell, J. (1998). *Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.).* Thousand Oaks, CA: Sag.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* London: Sage.

David, T. R. (2001). A general inductive approach for analyzing qualitative data. *University of Lkond*.

Denzin, N. K., & Lncoln, Y. S. (1994). *Handbook of Qualitative Research.* Thousands Oaks, CA: Sage Publications.

Dey, I. (2003). *Qualitative Data Analysis.* London : Sage Publications.

Djojosugito, & Rez. (2008). Mitigating Legal Risk in Islamic Banking Operations. *Humanomics, 24(2),* 110–121.

Doerig, H. (2003). *Operational Risks in FinancialS ervices: An Old Challenge in a New Environment.* Credit Suisse Group.

Ebrahim, S. M. (2007). Review of Islamic Economics. In *Book Review on Interest in Islamic Economics* (pp. 149–153). ISLAMIC RESEARCH AND TRAINING INSTITUTE.

Edmund, C. H. (2004). Risk Management for Systems of Systems. *2004 Systems and Software Technology Conference.* Salt Lake City: Salt Lake city univiresity .

Elliot, D., & Letza, S. (2000). Governance, controle and operational risk. *Palgrave Macmillan journal*, 47.

Fiennes, T. (2007). *Supervisory Implications of Islamic Banking: A Supervisor's Perspective Islamic Finance: The Regulatory Challenge.* John Wiley & Sons (Asia) Pte Ltd.

Gitman, L. J. (2008). *Principles of Managerial Finance, 11th ed.* Delhi: Licensees of Pearson Education in South Asia.

Gomm, R., Hammersley, M., & Foster, P. (2002). Case study and generalization. In R. Gomm, M. Hammersley, & P. Foster, *Case Study Method: Key Issues, Key texts* (pp. 98-116). London: Sage Publications.

Grasing, R. (2002). Measuring operational efficiency: a guide for commercial bankers. *Commercial Lending Review, Vol. 17* , 45-52.

Greuning, H. V., & Iqbal, Z. (2008). *Risk Analysis for Islamic Banks.* Washington: World Bank.

Grossman, S. S., & Oliver, H. (1983). An Analysis of the Principal-Agent Prob lem. *Econometrica 51 (1),* 7-45.

Goddard, W., & Melville, S. (2004). *Research methodology: An introduction*. Juta and Company Ltd.

Guba, E. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Resources Information Center Annual Review Paper, 29*, 75-91.

Hadjiemmanuil, & Christos. (2003). *Legal Risk and Fraud: Capital Charges, Control and Insurance.* London: Pearson Education Limited.

Healy, M., & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. . *Qualitative Market Research – An International Journal,*.

Hoffman. (2002). *Managing Operational Risk: 20 Firmwide Best Practice Strategies.* New York: John Wiley & Sons, Inc.

IBM. (2004). *IBM Business Continuity and Recovery Services.* IBM.

IFSB. (2005a: 26). *Guiding Principles of Risk Management for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services.* Islamic Financial Services Board.

IFSB. (2005a: 27). *Guiding Principles of Risk Management for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services.* Islamic Financial Services Board.

Iqbal, Z., & Mirakhor, A. (2007). An Introduction to Islamic Finance: Theory and Practice. *John Wiley & Sons, Inc*.

Jackson-Moore, E. (2007). *Measuring Operational Risk.* John Wiley & Sons (Asia) Pte Ltd.

Joskow, P. L. (1987). Contract Duration and Relationship-Specific Investments: Empir ical Evidence from Coal Markets. *American Economic Review 77*, 168-85.

Keohane, R., Verba, S., & King. (2004). *Designing Social Inquiry: Scientific Inference in Qualitative Research.* London: Princeton University Press.

Khan, Ahmed, H., & Tariqullah. (2001). *Risk Management: An Analysis of Issues in Islamic Financial Industry.* Jeddah: Islamic Research and Training Institute, Islamic Development Bank.

Khan, S. (2007). The Case in case-based design of educational software: A methodological Interrogation. *Educational Technology Research and Development*, 1-25.

Kumar, S. (2008). Islamic Banks: Operational Risk Dimension.

Kapoulas, A., & Mitic, M. (2012). Understanding challenges of qualitative research: rhetorical issues and reality traps. *Qualitative Market Research: An International Journal*, *15*(4), 354-368.

lacker, K. (2000). Mitigating Operational Risk in ritish Retail anks. *Palgrave Macmillan Journals*, 23-33.

Levy, F., & Murnane, R. (2004). *The New Division of Labor.* Princeton Uni.

Lincoln, Y., & Guba, E. (2000). Naturalistic inquiry. *Beverly Hills, CA: Sage*.

Medova, E., & Kyriacou, M. (2001). *Extremes in Operational Risk Management.* London: enter for Financial Research, Judge Institute of Management, University of Cambridg.

Micheal, P. (2001, june 24). The invention of operational risk. *Review of international political economy* (pp. 577-599). Taylor Francis Ltd.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Mitchell, J., & Clyde. (2000). Case and Situation Analysis. In R. Gomm, M. Hammerlsey, & P. Foster, *Case Study Method: Key Issues, Key Texts* (pp. 165-186). Thousand Oaks CA: Sage Publications.

Nienhaus, V. (2007). *Human Resource Management of Islamic Banks.* John Wiley & Sons (Asia) Pte Ltd.

Rao, T., & Hosh, P. (2008, May 03). Preparedness of ndian anks in Managing Operational Risk. *Preparedness of ndian anks in Managing Operational Risk*, pp. 47-51.

Ritchie, J., & Lewis, J. (2003). *Qualitative research practice : a guide for social science students and researchers.* London: Sage Publications.

Scott, H. (2001, september 03). *Legal Risk: The Operational Risk Problem in Microcosm.*

Shavelson, R. J., & Lisa, T. (2002). *Scientific Research in Education.* Washington DC: National Academy Press.

Stake, R. E. (1995). *The Art of Case Study Research.* Thousand Oakes: Sage Publications.

Sundararajan, V, & Errico, L. (2002). *Islamic Financial Institutions and Products in.* Washington: International Monetary Fund.

Supatgait, C., Kenyon, C., & Heusler, L. (2006). Cause-to-effect Operational risk quantification and management. *Palgrave Macmillan*, 16-42.

Tohidi, H. (2010). *The Role of Risk Management in IT systems of organizations.* Tehran: Islamic Azad University, South Tehran Branch, Iran.

Williamson, O. E. (1979). Transaction-Cost Economics: The Governance of Con tractual Relations. *Journal of Law and Economics 22(2),* 233-61.

Woods, M. (2009). A contingency theory perspective on the risk management control system within Birmingham city council. *Management Accounting Research, Vol. 20,* 69-.

Yin, R. (2003). *Case Study Researh: Design and Methods (3rd Ed.).* Thosand Oaks CA: Sage Publications.

Yin, R. K. (2009). *Case Study Research: Design and Methods 4th ed.* Thousand Oaks, Calif: Sage Publications.