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Applying Core Principles of Risk Management in Islamic Banks' Operational Risk Analysis

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Abstract

Identifying operational risk in Islamic banks is a challenging task due to various components it entails. An analysis of operational risk management, therefore, should not be considered as disjointed tasks. On the contrary, it should be viewed as a structured process in which operational risk hazards, events, and losses are integrated in such a manner that will help management of an Islamic bank develop a classification based on a root cause analysis. Thus, by linking causation to relevant business activities, the structure could then be used as a foundation for an effective operational risk management. This is the first main issue which is theoretically addressed by this paper. The subsequent main issue elucidated in the paper is the various dimensions of operational risk in major Islamic financial contracts and the mitigation methods in operational risk.

Introduction

In Islamic banking sphere, the need to cater operational risk issue has been discussed by Khan and Ahmed (2001), Sundararajan and Errico (2002), Hossain (2005), Archer and Haron (2007), Iqbal and Mirakhor (2007), Akkizidis and Kumar (2008), and Izhar (2010). Identifying operational risk exposures in Islamic banks can be somewhat a daunting task since there are numerous components which need to be thoroughly analysed. It does not come as a surprise, therefore, that the magnitude of

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operational risk is perceived to be relatively higher than credit risk and market risk due to its complexities and a wide range of its constituents coupled with some peculiar features in Islamic financial contracts.

It is therefore important to develop a structured framework that the management of an Islamic, particularly for its chief risk officer to identify what constitutes operational risks and how it would affect the bank's performance. Thus, using risk management approach, this paper attempts to contribute to the theoretical development of operational risk analysis by firstly presenting the arguments as to why Islamic banks have a distinct operational risk aspect, as compared to conventional banks. The paper also sheds light upon operational risk issues from a regulatory point of view, namely Basel and IFSB. The following section discusses how to identify and conduct an integrated analysis in operational risk management by using core principles of risk management framework. Methods of mitigating operational risk are discussed in the last section.

Operational Risk Exposures in Islamic Banks

As a modern form of *jahbadh*[1], an Islamic bank is an institution offering financial services which conforms with *Shariah*. A set of shariah principles governing the operations of Islamic banks are (i) prohibition of dealing with interest (riba); (ii) financial contracts must be cleared from contractual uncertainty (*gharar*); (iii) exclusion of gambling (*maysir*) in any financial activity; (iv) profit must not be originated from *haram* economic and financial activities (prohibited industries such as those related to pork products, pornography, or alcoholic beverages); (v) each financial transaction must refer to a tangible, identifiable underlying asset; and (vi) parties to a financial transaction must share in the risks and rewards attached to it. The principles mentioned above must be, conceptually, inherent in Islamic banks, in order to distinguish them from conventional banks.

With regard to operational risk, Islamic banks face the same challenges as conventional ones, to the degree that they offer financial services in various banking activities (Archer and Haron, 2007; Hossain, 2005). At this state, the challenge is impartially similar for all financial intermediaries, whether *shariah*-compliant or not. Similar to the conventional banks, risk management in Islamic banks aims at identifying, measuring, controlling and monitoring different types of risks.

Nevertheless, the challenges are more sophisticated for Islamic banks since the financial activities and the features of the financial contracts are substantially different. 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, 2007a: 22). Further, it is argued that operational risks are likely to be more significant for Islamic banks due to their specific contractual features (Fiennes, 2007; Greuning and Iqbal, 2008; Iqbal and Mirakhor, 2007; Khan and Ahmed, 2001; Kumar, 2008; Sundararajan and Errico, 2002; and Sundararajan, 2005).

Unlike the Basel 2's definition on operational risk which states "operational risk is the risk of loss resulting from inadequate or failed internal processes, people or system, or from external events" (BCBS, 2001: 2); 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 *Shariah* non-compliance and the failure in fiduciary responsibilities" (IFSB, 2005a: 26). It is understood that the definition of operational risk in Islamic banks entails legal risk (Archer and Haron, 2007; Cihak and Hesse, 2008; Djojosugito, 2008, Fiennes, 2007; Khan and Ahmed, 2001; and Sundararajan, 2005), and also reputational risk (Fiennes, 2007; Akkizidis and Kumar, 2008; Standard & Poor's, 2008). The foremost distinctive feature of this definition, as compared to the definition by Basel 2, is the inclusion of *Shariah* non-compliance risk and fiduciary risk. As a matter of fact, *Shariah* non-compliance risk is considered to have a significant portion in operational risk (IFSB, 2007b: 6).

Shariah non-compliance risk is the risk arising from Islamic banks' failure to comply with the *Shariah* rules and principles determined by the Shariah Board or the relevant body in the jurisdiction in which the Islamic bank operates (IFSB, 2005a). The failure to comply with such principle will result in the transaction being cancelled, and hence the income or loss cannot be recognised. Moreover, 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, 2005a).

Therefore, a failure in maintaining fiduciary responsibilities will result in the deterioration of Islamic banks' reputation (Hamidi, 2006). 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. Therefore, in order to keep good reputation, it is suggested that Islamic banks need to do two things; firstly, to ensure that their financial products are *Shariah* compliant (Greuning and Iqbal, 2008; and Iqbal and Mirakhor, 2007), secondly, to effectively maintain their fiduciary roles (Muljawan, 2005).

As such, it elucidates why operational risk management in Islamic banks is not similar to that in conventional banks. There are a number of dimensions need to be added in the analysis. 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. It is, therefore, proposed that operational risk exposures in Islamic banks could stem from the following main sources: (i) People; (ii) Systems; (iii) Process; and (iv) External events.

People

This is the most dynamic of all sources of operational risk where the true cause of many operational losses can be traced to people failure. People risk refers to losses coming from events such as human errors, frauds, violations of internal rules and procedures (unauthorized trading, insider dealing) and more generally problems of incompetence and negligence of the financial institution human resources (Akkizidis and Kumar, 2008). Another aspect which has to be taken into consideration is that whether the risk of a loss is intentional or unintentional. Unfortunately, as Akkizidis and Kumar (2008) contend, the largest amount of losses comes from intentional activities such as fraud and unauthorised trading. For instance, an internal control problem cost the Dubai Islamic Bank US$ 50 million in 1998 when a bank official did not conform to the bank's credit terms. This also resulted in a run on its deposits of US$ 138 million, representing 7% of the bank's total deposits, in just one day (Warde, 2000: 155). Another case involving a large unauthorised loan, around US$ 242 million, was also caused by bank official of the Dubai Islamic Bank and West African tycoon Foutanga Dit Babani Sissoko.

The thriving development of Islamic banking industry, unfortunately, has not corresponded with the number of people who have credentials in running and directing the business. This issue has been highlighted by Aziz (2006), Edwardes (2002), Jackson-Moore (2007), Khan (2004), Khan and

Ahmed (2001), and Kumar (2008), and Nienhaus (2007). The dimension of people risk in Islamic banks is understandably wider than in conventional ones since the personnel of Islamic banks' personnel are required to be well-versed in both, conventional banking products and their status in relation to Islamic requirements (Aziz, 2006; Ebrahim, 2007; Nienhaus, 2007). There is a dire need that Islamic banking industry must be equipped with a new breed of innovators, risk managers, regulators and supervisors who have the right blend of knowledge of finance and the understanding of the *Shariah* (Aziz, 2006).

Furthermore, they should be aware of the existing Islamic alternatives and their commercial advantages and disadvantages compared to the conventional products (Nienhaus, 2007). A shortage in skilled bankers with such requirements aforementioned above, will undoubtedly lead to a higher people risk (Jackson-Moore, 2007). In other word, inadequately trained staff or incapable personnel will expose Islamic banks unnecessarily to operational risk. In response to a very demanding industry, staffs of Islamic banks must be able to design Shariah compliant financial innovations in order to meet the diversified needs of the clients and to match the ever increasing scope of conventional techniques, procedures, and products. More importantly, despite the fact of such challenges, staffs of Islamic banks should be able to create financial contracts which are more than just legally interest free. In other words, skilled staffs of Islamic banks will ensure that the products are efficient as well as *Shariah*-compliant. Unskilled staffs can cause the product to be, either illegitimate according to *Shariah* or inefficient.

A fraud case in the Dubai Islamic Bank as mentioned above shows that an institution called Islamic bank is not free from fraud, whether intentional or unintentional. Akkizidis and Kumar (2008) suggest that financial institutions should establish appropriate system and thorough control for the management of operational risks that may arise from employee. Hence, the following direction can be established (Akkizidis and Kumar, 2008: 194-195):

- A selection of employees that respect and follow the *Shariah* principles
- A separation of the employees' duties
- An internal supervision of the employees' performances
- Well established policies that are complying with the *Shariah* principles and are well known by all employees

- Training process to direct the employees in the process of the risk management
- A transparent reward and punishment mechanism.

At the current state, it is understood that people risk can contribute to operational risks substantially. One of the reasons is because of the lack of people who are adequately trained in both modern financial transactions and applied *fiqh muamalah*. In most cases, Islamic banks hire shariah scholars who hardly understand the complexity of modern financial transactions. On the other hand, it is also very difficult to find financial economists who are knowledgeable in applied f*iqh muamalah*.

Systems

In an advanced financial industry, an Islamic bank's operations are very much dependent on its technological system. Its success depends, in great part, on its ability to assemble increasingly rich databases and make timely decisions in anticipation of client demands and industry changes. The advanced use of information technology (IT) has also brought a new facet in the current competition of Islamic banking industry. It is often that a success of an Islamic bank's business is determined by the ability to capitalise the use of an information technology in different ways. An inability to keep up with the advanced use of an information technology could cause an Islamic bank fall behind its competitors. Therefore, every Islamic bank must be committed to an ongoing process of upgrading, enhancing, and testing its technology, to effectively meet (Chorafas, 2004: 91); (a) sophisticated client requirements, (b) market and regulatory changes, and (c) evolving internal needs for information and knowledge management.

Chorafas (2004) argues that a failure to respond to the above prerequisites could increase an exposure to operational risk related to IT. In addition, the use of software and telecommunications systems that are not tailored to the need of Islamic banks could also contribute to technology risk, as well as many other internal such as such as human error, internal fraud through software manipulation (Chorafas, 2004: 91), programming errors, IT crash caused by new applications, incompatibility with the existing systems, failures of system to meet the business requirements (Akkizidis and Kumar, 2008: 191), external fraud by intruders; obsolescence in applications and machines, reliability issues, mismanagement, and the effect of natural disasters.

It is clear from the explanation above that the extensive use of an information technology could increase IT related operational risk in number and severity originating from internal as well as external events.

However, high technology allows a visualisation which turns numbers into graphs and images. Unfortunately, only few financial institutions have the ability to capitalise the best that the technology can offer (Chorafas, 2004). Spending big sums of money on technology without the corresponding return on investment (ROI) is also an indication of an IT-related operational risk.

Process

Financial institutions operate a myriad of processes to deliver their products and activities to their customers. Process risk includes the losses that originate from inadequacies in the internal processes and procedures. Examples include events such as the violation of the information system security due to insufficient controls (security risk) errors in the execution and/or settlement of securities and foreign currency transactions (transaction and settlement errors) inadequate record-keeping, accounting and taxation errors, mispricing and errors in risk measurements due to problems in the internal models and methodologies (model risk) and breaches of mandate.

In the context of Islamic banking, another dimension of process risk is the need to remain compliant with Shariah principles in the process and procedures of structuring Islamic financial transactions. A failure to fulfil such requirement may lead to Shariah non-compliance risk. IFSB guiding principles of risk management for institutions offering Islamic financial services—other than insurance institutions, clearly mentions the definition of Shariah non-compliance risk. It is the risk which arises from "IIFSs'[2] failure to comply with the Shariah rules and principles determined by the Shariah board of the IIFS or the relevant body in the jurisdiction in which the IIFS operate" (IFSB, 2005a: 26). For Islamic banks, to be Shariah compliant is paramount. According to IFSB Principle 7.1, Islamic banks shall have in place adequate system and controls, including Shariah Board/Advisor, to ensure compliance with Shariah rules and principles (IFSB, 2005a: 27). Such compliance requirements must be pervasively infused throughout the organisation as well as in their products and activities. Shariah compliance is considered by IFSB as a higher priority in relation to the other identified risks, since violation of Shariah principles will result in the transactions being cancelled or income generated from them shall be considered as illegitimate.

The need to ensure compliance with Shariah in operational risk management is vital (Aziz, 2006) and it must encompass the products, activities, and contract documentation—with regard to formation, termination and elements which might possibly affect contract performance such as fraud and misrepresentation. Furthermore, the degree of Shariah compliance, as IFSB (2005a) suggests, has to be reviewed, at least, annually which can be performed by a credible party, either from a separate Shariah control department or as part of the existing internal and external audit. The main objective is to ensure that (a) the nature of Islamic banks' financing and equity investment; and (b) their operations are executed in adherence to the *Shariah* principles.

In the event that *Shariah* non-compliance occurs, either in the products or activities, Islamic banks need to keep record of the profits out of it. The record will help Islamic banks assess the probability of similar cases arising in the future. Further, historical reviews and data of potential areas of *Shariah* non-compliance will enable Islamic banks to make an assessment on the potential profits which cannot be recognised as legitimate profits. In order word, potential loss could be managed, hence, reduced to a minimum level.

With respect to *Shariah* requirements in financing contracts, albeit the diversity of interpretations prevalent in the industry, Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) has already issued its latest *Shariah* standard that could be referred to by Islamic banks. In sum, *Shariah* compliant financing—in six different contracts, needs to fulfil the following *Shariah* requirements (AAOIFI, 2005):

(a) *Murabahah* and *Ijarah* contracts:

- The asset is in existence at the time of sale or lease or, in Ijarah, the lease contract should be preceded by acquisition of the usufruct of the leased asset;
- The asset is legally owned by Islamic banks when it is sold;
- The asset is intended to be used by the buyer/lessee for activities or business permissible by *Shariah*; if the asset is leased back to its owner in the first lease period, it should not lead to contract of *'inah*, by varying the rent or the duration;

- In the event of late payment, there is no penalty fee or increase in price in exchange for extending or rescheduling the date of payment of accounts receivable or lease receivable, irrespective of whether the debtor is solvent or insolvent.

(b) *Salam* and *Istisna'* contracts:

- A sale and purchase contract cannot be inter-dependent and inter-conditional on each other. This is for the case of *salam* and parallel *salam* or istisna and parallel istisna';
- It is not allowed to stipulate a penalty clause in respect of delay in delivery of a commodity that is purchased under salam contract. However, it is allowed under istisna' or parallel *istisna'*;
- The subject matter of an *istisna'* contract may not physically exist upon entering into the contract.

(c) *Musharakah* and *Mudarabah* contracts:

- The capital of the Islamic banks is to be invested in *Shariah* compliant investments or business activities;
- A partner in *musharakah* cannot guarantee the capital of another partner or a mudarib guarantees the capital of the mudarabah;
- The purchase price of other partner's share in a *musharakah* with a binding promise to purchase can only be set as per the market value or as per the agreement at the date of buying. It is not permissible to stipulate that the share be acquired at its face value.

Clearly, it is vital for Islamic banks to abide by the *shariah* principles in every aspect of their financial transactions. In addition to that, the process of structuring the contracts is also very important. In other word, sequence in structuring certain financial products could determine the degree of *shariah* compliance, since a few contracts could be used as legal devices to circumvent certain *shariah* principles.

External Events

This source includes all losses a financial institution may suffer as a consequence of a wide range of external events which typically are not under the control of the management. These include events such as changes in the political, regulatory and legal environment that negatively affect the financial institution profitability, operational failures at suppliers or outsourced operations, criminal acts such as theft vandalism robbery or terrorism and natural events such as fire, earthquake, floods and other natural disasters.

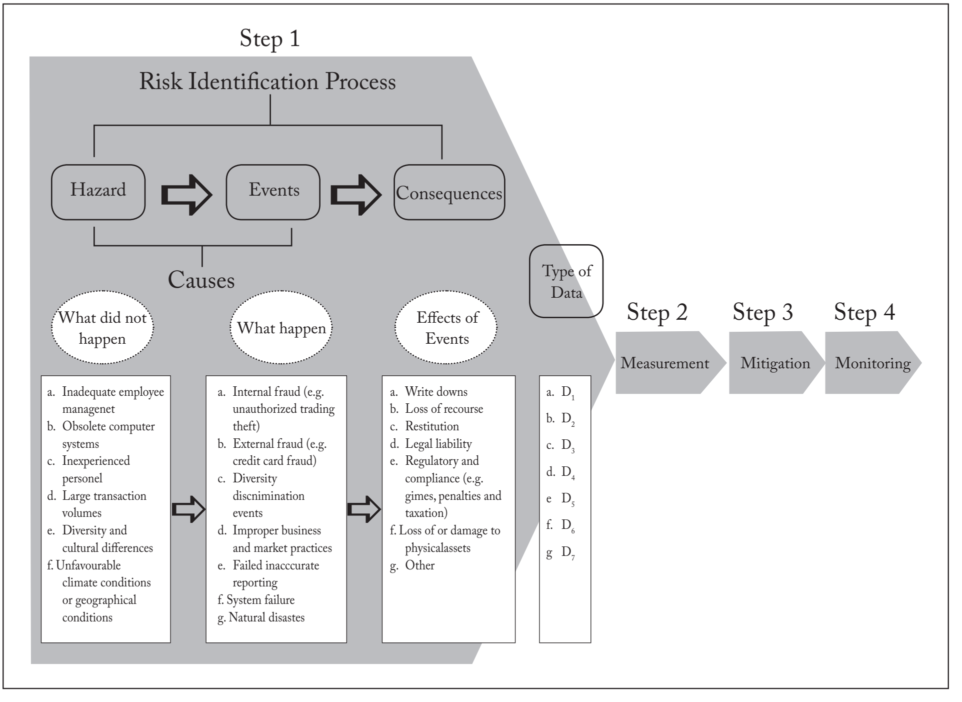
In the area of legal risk in Islamic banking for instance; the impacts of which on Islamic banks are substantial and cannot be neglected (Cihak and Hesse, 2008; Djojosugito, 2008; Hassan and Dicle, 2005; Iqbal, 2005; Kahf, 2005; Kumar, 2008; Nienhaus, 2005; and Sundararajan, 2005). Legal risk may arise from uncertainty in laws (Kumar, 2008), lack of reliable legal system to enforce financial contracts (Djojosugito, 2008; Iqbal, 2005; Sundararajan and Errico, 2002; and Sundararajan, 2005), legal uncertainty in the interpretations of contracts (Cihak and Hesse, 2008), the legality of financial instruments (Djojosugito, 2008), lack of availability of legal experts (Kumar 2008), and exposure to unanticipated changes in laws and regulations (Djojosugito, 2008). Moreover, it is argued that some operational aspects of Islamic banking activities are not sufficiently covered by laws, which in turn, results in the exposure of legal risk to Islamic banks (Djojosugito, 2008). It stems from the fact that most of Islamic banks, at the current stage, operate within similar legal and business environments (Hassan and Dicle, 2005; and Kahf, 2005). In addition to that, a number of inevitable separate contracts in Islamic banking products could contribute to additional legal risks (PWC, 2009). For example, in the case of *murabaha* transaction, the bank has to buy an item and then sell it on under different payment terms—each step takes time and involves a fresh contractual agreement which magnifies the scope for disagreements and complications.

Uncertainty in regulation may also account for legal risk if such regulatory changes affect the legality of certain Islamic financial instruments. This is the case in Indonesia where the law views some of *mudarabah* bonds issued as debt which in effect is guaranteed by the patrimony of *mudarib* (Djojosugito, 2008). While *shariah* prohibits such recourse, the law will not uphold the *shariah* prohibition.

Risk Management Principles in Operational Risk Analysis

Confusion usually arises in the operational risk because of the distinction between risk type (or *hazard* type), event type, and *consequence* (or *loss* type). The following figure will help in clarifying such confusion by methodically differentiating *hazard, event type* and *consequences*. Mori and Harada (2001), Alvarez (2002), and Dowd (2003) suggest that the distinction between the three is comparable to cause and the effect. *Hazard* constitutes one or more factors that increase the probability of occurrence of an event; *event* is a single incident that leads directly to one or more effects (e.g. losses); and loss constitutes the amount of financial damage resulting from an event. When banks record their operational loss data, it is very essential to record it separately according to event type and loss type, and precisely identify the risk type as well.

Figure 1: Application of Risk Management Principles in Operational Risk Analysis



Mori and Harada (2001) shows how operational losses would occur in a process called 'cause-effect' relationship between *hazard, event,* and *loss*. *Loss* is effect of *event* while *event* is cause of *loss*. Yet, *event* is effect of *hazard* while *hazard* is cause of *event*. In other words, every *loss* must be associated with an *event* that caused the *loss*, while every *event* must be associated with one or multiple *hazards* that caused the *event.*

The figure above espouses the core principles of risk management process consisting of four main steps, namely *identification*, *measurement, mitigation,* and monitoring; which in this paper, is attributed IM_3. Identification process essentially stems from characterising *what did not* *happen* (*hazards*); which would cause a range of events. Such events would subsequently have a wide range of consequences which, if done properly and meticulously based on their respective nature, will help in classifying the data needed in the measurement process.

A thorough measurement process would enable chief risk officer to reach at a close proximity of operational risk exposures which would immensely help in selecting mitigation methods.

The last step (step 4) is monitoring, which Blunden and Thirlwell (2010) contends that it should be risk-based. A significant part of monitoring is to re-assess, on a regular basis, the risks at both management and operational level.

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 shariah 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. It is proposed that an Islamic bank focuses on root causes as opposed to effects. 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.

An analysis of operational risk management should not be thought of as disjointed tasks; instead, it should be viewed as a structured process in which relevant risks and control information are integrated. This is an important message of the whole process depicted in figure 1 above. Such structured approach will help management of an Islamic bank develop a classification based on a root cause analysis which can eventually be captured in the loss event database. Thus, by linking causation to relevant business activities, through correlation analysis for instance, the structure could then be used as a foundation for an effective operational risk management.

Operational Risks in Islamic Financial Contracts

After identifying various aspects of operational risks in relation to Islamic banking, this section discusses different dimensions of operational risk in different types of Islamic financial contracts. As can be seen in table 1, the five dimensions of operational risk are *Shariah* compliance risk (*SR*), fiduciary risk (*FR*), people risk (*PR*), legal risk (*LR*), and technology risk

(*TR)*. The first three dimensions are, by nature, internally inflicted; while the fourth one is naturally from external source. As for technology risk (*TR*); it can originate from either internal or external operational failures.

Murabahah

Murabahah is "selling a commodity as per the purchasing price with a defined and agreed profit mark-up" (AAOIFI, 2005). This mark-up may be a percentage of the selling price or a lump sum. Moreover, according to AAOIFI standard (2005), this transaction may be concluded either without a prior promise to buy, in which case it is called ordinary *murabahah*, or with a prior promise to buy submitted by a person interested in acquiring goods through the institution, in which it is called a "banking *murabaha*", ie. *murabaha* to the purchase orderer. This transaction is one of the trust-based contracts that depends on transparency as to the actual purchasing price or cost price in addition to common expenses.

Murabahah is the most popular contract in terms of its use, since most of Islamic commercial banks operating worldwide rely on this contract in generating income. Different dimensions of operational risk which can arise in murabahah transaction are as follows:

- *Shariah compliance* risk (*SR*); may arise if the Islamic banks give money, instead of commodity, which will then result in the exchange of money and money. This is prohibited in *Shariah*, since the exchange of money with money, plus additional amount above the principal and paid in different time will tantamount to riba. AAOIFI *Shariah* standard (2005) also requires Islamic banks to own, legally, the commodity before they sell it to the customers. It is important to note that the sequence of the contract is very central in *murabahah* transaction. Inability or failure to conform with the sequence and shariah requirement will result in the transaction to be deemed illegitimate.
- *Fiduciary risk* (*FR*); this risk arises due to the inability to meet the specified commodity stipulated in the contract.
- *People risk* (*PR*); the risk can result from two sides, seller as well as buyer. *PR* from the seller side occurs if Islamic banks fail to deliver the specified product agreed in the contract on due date, while PR from the buyer side takes place when the buyers does not keep their promise to buy the commodity. This can happen in the binding murabaha contract.

Table 1. The Dimensions of Operational Risk in Islamic Financial Contracts

Contracts	Internal Risks				External Risks	
	***Shariah* Compliance Risk (*SR*)**	**Fiduciary Risk (*FR*)**	**People Risk (*PR*)**	**Technology Risk (*TR*)**	**Legal Risk (*LR*)**	**Technology Risk (*TR*)**
Murabaha	• Exchange of money and commodity needs to be ensured • In the event of late payment, penalty must be avoided as it will tantamount to riba.	Inability to meet the specified product stipulated in the contract	Fail to deliver the product	Incompatibility of the new accounting software	Products to be sold must be legally owned by the bank	System failures and external security breaches
Salam	• Final payment of monetary rewards must be concluded in advance • Penalty clause is illegitimate in the event of seller's default in delivering the goods • In parallel *salam*, execution of second *salam* contract is not contingent on the settlement of the first *salam* contract	• Inability to meet the specified product stipulated in the contract. • Delivery of inferior goods cannot be accepted	Mismatch in the commodity's specification due to inability of seller to provide the exact product mentioned in the contract.	Incompatibility of the new accounting software	Goods must be delivered when it is due, as agreed in the contract	Specification mismatching in commodities productions agreed in the contract
Istisna	• Should not be used as a legal device; e.g. the party ordering the product to be produced is the manufacturer himself • In parallel *istisna'*, contracts should be separated to avoid two sales in one deal	Need to ensure the quality standards of the products	Inability to deliver the product on time	Incompatibility of the new accounting software	Disagreement with the sub-contractor or the customer in the event of remedying the defects	Specification mismatching in commodities productions agreed in the contract
Ijara	• Need to ensure that leased asset is used in a *Shariah* compliant manner • In *ijarah muntahia bittamleek*, an option to purchase cannot be enforced.	Major maintenance of the leased asset is the responsibility of the banks or any party acting as lessor.	Lessor needs to understand that in the event of payment delay, rental due cannot be increased as clearly exemplified by AAOIFI	Incompatibility of the new accounting software	Enforcement of contractual right to repossess the asset in case of default or misconduct by the lessee	Losses of information on the leased assets specified in the contract due to external security breaches
Musharakah	Profit allocation is based on actual profit, not expected profit	Inadequate monitoring of the financial performance of the venture	Lack of technical expertise in assessing the project	Incompatibility of the new accounting software	A mixture of shares in one entity may lead to legal risk if the regulation does not facilitate such action	Losses of information on the projects specified in the contract due to external security breaches
Mudarabah	Profit allocation is based on actual profit, not expected profit	Inadequate monitoring of the business	Inability to provide regular and transparent financial performance of the project	Incompatibility of the new accounting software	Misinterpretation of civil law upon implementation of *Shariah* compliant *mudaraba*	Losses of information on the projects specified in the contract due to external security breaches

Source: Izhar (2010: 37)

- *Legal risk* (*LR*); profit originated from murabahah can not be equated with interest, although it looks similar. The main difference is because the resulting profit is tied with the underlying commodity. This might create legal problem as in certain countries, the regulators only give limitation on interest rate, not profit rate. Hence, the absence of so called 'profit rate cap' has the potential to crate legal problems if there is any dispute. Another potential problem can occur at the contract signing stage, since the contract requires the Islamic bank to purchase the asset first before selling it to the customer; the bank needs to ensure that the legal implications of the contract properly match the commercial intent of the transactions.
- *Technology risk* (*TR*); may result from an incompatibility of the new accounting software or an external system failure.

Salam and Parallel Salam

AAOIFI *Shariah* standards (2005) define *salam* as a transaction of the purchase of a commodity for the deferred delivery in exchange for immediate payment. It is a type of sale in which the price, known as the *salam* capital, is paid at the time of contracting while the delivery of the item to be sold, know as *al-muslam fihi* (the subject matter of a *salam* contract), is deferred. The seller and the buyer are known as *al-muslam ilaihi* and *al-muslam* or *rabb al-salam* respectively. *Salam* is also known as *salaf*. Parallel *salam* occurs when the seller enters into another separate salam contract with a third party to acquire goods, the specification of which corresponds to that of the commodity specified in the first salam contract (AAOIFI, 2005).

- *Shariah compliance risk* (*SR*); one of the very central conditions in *salam* contract is that the payment of *salam* capital must be paid full in advance. If payment is delayed, the transaction is not called *salam* (AAOIFI, 2005: 172). Any delay in payment of the capital and dispersal of the parties renders the transaction a sale of debt for debt, which is prohibited, and the scholars agreed on its prohibition (AAOIFI, 2005: 172). Another aspect, which might lead to *SR* may also occur in parallel *salam*; this will take place if the execution of the second salam contract is contingent on the execution of the first *salam* contract. Penalty clause is also not allowed, in the event of a seller's default in delivering the good. The basis for not allowing penalty in *salam* is because *al-muslam fihi* (the subject matter of a *salam* contract) is considered to be a debt; hence it is not permitted to stipulate payment in excess of the principal amounts of debt (AAOIFI, 2005: 173).

- *Fiduciary risk* (*FR*); *salam* is generally associated with the agricultural sector. The buyer must either rejects goods of an inferior quality to that specified in the contract, or accept them at the original price. In the latter case, the goods would have to be sold at a discount (unless the customer under a parallel *salam* agreed to accept the goods at the originally agreed price).
- *People risk* (*PR*); can arise due to a seller's default in delivering the commodity or due to the commodity's specification mismatching. Financial institutions may minimise such type of operational risks by asking from the seller guarantees that they are following a quality management system or following any standard system, or by asking for references on past promises on salam contract or by collateralising their losses via insurance policies.
- *Legal risk* (*LR*); Islamic banks may face legal risk if the goods can not be delivered at the specified time (unless the customer under parallel salam agrees to modify the delivery date).
- *Technology risk* (*TR*); may result from an incompatibility of the new accounting software or the system fails to specify precisely the commodities agreed in the contract.

Istisna' and Parallel Istisna'

Istisna' is another type of forward contract, but the role of an Islamic bank as a financial intermediary differs from that in a *salam* contract. In this case, the bank contracts to supply a constructed asset (such as a building or a ship) for a customer. In turn, the bank enters into a parallel *istisna'* with a sub-contractor in order to have the asset constructed. Its reliance on the parallel istisna counterparty (the sub-contractor) exposes it to various operational risks, which need to be managed by a combination of legal precautions, due diligence in choosing sub-contractors, and technical management by appropriately qualified staff or consultants of the execution of the contract by the sub-contractor. Islamic banks that specialise in istisna' financing may have an engineering department. Risks may include the following:

- *Shariah compliance risk* (*SR*); could arise if Istisna is being used as a legal device for mere interest based financing. For instance, an institution buys items from the contractor on a cash payment basis and sells them back to the manufacturer on a deferred payment basis at a higher price; or where the party ordering the subject matter to be produced is the manufacturer himself; or where one third or more of the facility in which the subject matter will be produced belongs to the customer. All the circumstances mentioned above would make the deal an interest based financing deal in which the subject matter never genuinely changes hands, even if the deal won through competitive bidding. This rule is intended to avoid sale and buy back transactions (bay al-inah). In parallel istisna', the separation of contracts is a must, hence this is not an instance of two sales in one deal, ehich is prohibited.
- *Fiduciary risk* (*FR*); the sub-contractor may fail to meet quality standards or other requirements of the specification, as agreed with the costumer under the istisna' contract.
- *People Risk* (*PR*); this may arise if the Islamic bank may be unable to deliver the asset on time, owing to time overruns by the sub-contractor under the parallel istisna', and may thus face penalties for late completion.
- *Legal risk* (*LR*); Islamic banks may face legal risk if no agreement is reached with the sub-contractor and the customer either for remedying the defects or for reducing the contract price.
- *Technology risk* (*TR*); may result from an incompatibility of the new accounting software or the system fails to specify precisely the commodities that would be produced in the contract.

Ijarah and Ijarah Muntahia Bittamleek

In simple terms, an ijarah contract is an operating lease, whereas ijarah muntahia bittamleek is a lease to purchase. While operational risk exposures during the purchase and holding of the assets may be similar to those in case of murabahah, other operational risk aspects include the following:

- *Shariah compliance risk* (*SR*); the Islamic banks need to ensure that the asset will be used in a *Shariah* compliant manner. Otherwise, it is exposed to non-recognition of the lease income as non-permissible.

- *Fiduciary risk* (*FR*); major maintenance is the responsibility of an Islamic bank as a lessor, as directed by AAOIFI *Shariah* standards (2005: 154). In addition to that, it is the duty of the lessor to ensure that the usufruct is intact, and this is not possible unless the asset is maintained and kept safe so that the lessor may be entitled to the rentals in consideration for the usufruct. Thus, deficiencies in maintaining such responsibility can be deemed to be sources of *FR* in ijarah contract.
- *People risk* (*PR*); lessor is not allowed to increase the rental due, in case of delay of payment by the lesse, this is what AAOIFI (2005) clearly exemplifies. Misunderstanding of this principle by the staff is a source of losses caused by PR, because the income generated from this, is not permissible from *Shariah* point of view.
- *Legal risk* (*LR*);the Islamic bank may be exposed to legal risk in respect of the enforcement of its contractual right to repossess the asset in case of default or misconduct by the lessee. This may be the case particularly when the asset is a house or apartment that is the lessee's home, and the lessee enjoys protection as a tenant.
- *Technology risk* (*TR*); may occur due to an incompatibility of the new accounting software or losses of information on the leased assets due to external security breaches.

Musharakah

Musharakah is a profit and loss sharing partnership contract. The Islamic bank may enter into a *musharakah* with a customer for the purpose of providing a *Shariah* compliant financing facility to the customer on a profit and loss sharing basis. The customer will normally be the managing partner in the venture, but the bank may participate in the management and thus be able to monitor the use of the funds more closely. Typically, a diminishing *musharakah* will be used for this purpose, and the customer will progressively purchase the bank's share of the venture. Operational risks that may be associated with *musharakah* investments are as follows:

- *Shariah compliance risk* (*SR*); the source of *SR* may arise due to the final allocation of profit taking place based on expected profit. AAOIFI (2005: 205) commands that it is necessary that the allocation of profit is done on the basis of actual profit earned through actual or constructive valuation of the sold assets.

- *Fiduciary risk* (*FR*); any misconduct or negligence of the partners are the sources of *FR*. This can happen in the absence of adequate monitoring of the financial performance of the venture.
- *People risk* (*PR*); lack of appropriate technical expertise can be a cause of failure in a new business activity.
- *Legal risk* (*LR*); an Islamic bank which enters into musharakah contract needs to acquire some shares from separate legal entity that undertake Shariah compliant activities. A mixture of shares in one entity may lead to legal risk if the regulation does not allow doing such action.
- *Technology risk* (*TR*); may occur due to an incompatibility of the new accounting software or losses of the precise information on projects undertaken due to external security breaches.

Mudarabah

Mudarabah is a profit sharing and loss bearing contract under which the financier (*rab al mal*) entrusts his funds to an entrepreneur (*mudarib*). The exposure of operational risk in *mudarabah* is somewhat similar to that of musharakah. However, since this type of contract may be used on the assets side of the balance sheet, as well as being used on the funding side for mobilising investment accounts, the operational risk is first analysed from the assets-side perspective and then from the funding side perspective (which is related to fiduciary risk)

Asset-side Mudarabah

Contractually, an Islamic bank has no control over the management of the business financed through this mode, the entrepreneur having complete freedom to run the enterprise according to his best judge judgement. The bank is contractually entitled only to share with the entrepreneur the profits generated by the venture according to the contractually agreed profit sharing ratio. The entrepreneur as *mudarib* does not share in any losses which are borne entirely by the *rab al mal*. The *mudarib* has an obligation to act in a fiduciary capacity as the manager of the bank's funds, but the situation gives rise to moral hazard especially if there is information asymmetry—that is, the bank does not receive regular and reliable financial reports on the performance of the *mudarib*. Hence, in addition to due diligence before advancing the funds, the bank needs to take precautions against problems of information asymmetry during the period of investment.

Funding-side Mudarabah

Profit-sharing (and loss bearing) investment accounts are a *Shariah* compliant alternative to conventional interest-bearing deposit account. Since a *mudarabah* contract is employed between the Islamic bank and its investment account holders, the investment account holders (IAHs) share the profits and bear all losses without having any control or rights of governance over the Islamic bank. In return, the Islamic bank has fiduciary responsibilities in managing the IAHs' funds. The IAHs typically expect returns on their funds that are comparable to the returns paid by competitors (both other Islamic banks and conventional institutions), but they also expect the Islamic bank to comply with *Shariah* rules and principles at all times. If the Islamic bank is seen to be deficient in its *Shariah* compliance, it is exposed to the risk of IAHs withdrawing their funds and, in serious cases, of being accused of misconduct and negligence. In the latter case, the funds of the IAHs may be considered to be a liability of the Islamic bank, thus jeopardising its solvency.

Operational Risk Mitigation Techniques in Islamic Banks

Business Continuity Plan

Different types of incidents such as interruption of IT or communication lines or external event such as terrorism or floods may cause business disruption. Islamic banks should have in place a business continuity plan of the operational process or major work systems to be implemented in case of business disruption. Business continuity plan is used as a safeguard against various risks in order to mitigate the operational risk and curb the possible effects on interested parties. It should include at least the following components:

- An emergency plan that is an operational plan including methods to support, control and remedy various incidents such as fire or floods. It should also include employees evacuation plan and removal plan for important assets. In addition, a detail of loss mitigation measures on personnel, properties and suitable business operations should also be developed.
- A back-up plan and systems, namely an operational plan with detailed methods in selecting options of work system and procedures in order to continue the business.

- A disaster recovery plan describing different procedures to recover damaged conditions to return to normal business operation.

Takaful (insurance)

Takaful can be considered as a key instrument to hedge against operational risk. Elements of operational risk have been insured for some time. Examples include property coverage, fire and fraud. Takaful scheme will provide Islamic banks with the means of taking off their balance sheet and avoiding the significant costs of capital associated with the provisions for risk. Demand for traditional insurance coverage has increased dramatically in recent times as banks wake up to the potential horrors presented by various operational risks. Moreover the market for alternative risk transfer has been growing in recent years. One way to look at the decision making process for operational risk insurance is to categorise by severity and frequency on a risk map. In line with what Basel 2, banks that use advanced measurement approach in calculating the capital charge for operational risk to use insurance as a mitigation technique and the amount of insurance to be deducted from the capital required against operational risk. In this respect, Islamic banks may consider to utilise the service of takaful companies in mitigating some of their operational risks.

Outsourcing

As clearly mentioned in the earlier section that thriving development of Islamic banking industry has, unfortunately, not been matched up with the number of people who have credentials in running and directing the business. The dimension of people risk in Islamic banks is understandably wider than in conventional ones since the personnel of Islamic banks' personnel are required to be well-versed in both, conventional banking products and their status in relation to Islamic requirements (Aziz, 2006; Ebrahim, 2007; Nienhaus, 2007). There is a dire need that Islamic banking industry must be equipped with a new breed of innovators, risk managers, regulators and supervisors who have the right blend of knowledge of finance and the understanding of the *Shariah* (Aziz, 2006).

Furthermore, they should be aware of the existing Islamic alternatives and their commercial advantages and disadvantages compared to the conventional products (Nienhaus, 2007). A shortage in skilled bankers with such requirements aforementioned above, will undoubtedly lead to a higher people risk (Jackson-Moore, 2007). In other word, inadequately trained staff or incapable personnel will expose Islamic banks unnecessarily to operational risk. In response to a very demanding industry, staffs of Islamic banks must be able to design Shariah compliant financial innovations in order to meet the diversified needs of the clients and to match the ever increasing scope of conventional techniques, procedures, and products. More importantly, despite the fact of such challenges, staffs of Islamic banks should be able to create financial contracts which are more than just legally interest free. In other words, skilled staffs of Islamic banks will ensure that the products are efficient as well as *Shariah*-compliant. Unskilled staffs can cause the product to be, either illegitimate according to *Shariah* or inefficient.

For an Islamic bank with a deficiency in skilled staffs, outsourcing has number of advantages such as it will lower transaction costs and added benefits of having people with expertise to do the job and freeing up capital and resources to focus on core business. This would have a positive impact while doing a cost-benefit analysis study of risk mitigation. Proper service level agreements (SLAs) combined with performance benchmarks and independent evaluation can ensure that the impact of operational losses is reduced.

Adequate control policies and procedures

The absence of policies and procedures will likely expose Islamic banks to huge operational risks. It is therefore important for an Islamic bank to mitigate operational risk related to the processes by developing adequate control policies and procedures.

Training

Training is a good tool for mitigating different types of risks as it enhances staff efficiency in Islamic banks and as a result reducing errors. Islamic banks should assign suitable budget for training and carry out different training techniques and strategies to update their staffs with different new issues regarding the financial environment, new products, and new systems.

Conclusion

It has been widely understood that analysing operational risk in financial institutions should thoroughly be carried out. It is mainly because of the various components it carries which, in many cases, has created difficulties in determining the root cause of operational loss. As such, this paper provides a structured framework by adopting core principles of risk management, namely *identification, measurement, mitigation* and *monitoring* (IM_3) in analysing operational risks. Such framework will help the management of an Islamic bank, particularly its chief risk officer to clearly define which components that can be characterised as hazards, events, or losses. As a consequence, the causes or originating sources of loss could be identified, and hence, what consequences that would take place could also be recognised.

The paper also vividly explicates five dimensions of operational risk in major Islamic financial contracts that need to be taken care of. The five dimensions are are Shariah compliance risk (*SR*), fiduciary risk (*FR*), people risk (*PR*), legal risk (*LR*), and technology risk (*TR*). The first three dimensions are, by nature, internally inflicted; while the fourth one is naturally from external source. As for technology risk (*TR*); it can originate from either internal or external operational failures. The paper also suggests that in order to mitigate operational risk, an Islamic bank can choose one of the following methods, i) business continuity plan, ii) insurance (takaful), iii) outsourcing, iv) adequate control policy, v) training. The choice of mitigation methods will mainly depend on the originating source of operational risk.

Endnotes

1 It is likened to trade vendors who concurrently practiced business of financing and commercial transactions to other commercial parties.

2 IIFS stands for institutions (other than insurance companies) which offer only Islamic financial services. In many literatures, the term “Islamic banks”, “IIFS” or “Islamic financial institutions” are used interchangeably. IFSB opts to use IIFS in its publication.

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