



# OPERATIONAL RISK MANAGEMENT UNDER BASEL II – A CASE OF UAE BANKS

by

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# Declaration

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma of a university or other institute of higher learning, except where due acknowledgment is made in the text of the report.

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# Abstract

This thesis examines the ORM process in UAE banks in the light of Basel II Accord. The research also dwells into the concept of operational risk management with detailed study of the nature and characteristics of operational risk. The thesis studies the effects of operational risk in the banking industry and shows that if not managed or controlled this risk can cause havoc to the organization. Operational risk management is an ongoing process and the banks need to develop and implement procedures and systems and evolve these systems to adapt to changes in the environment.

This research studies the ORM framework of UAE banks with the help of a survey that was answered by the Risk Managers of various banks. The research gives information regarding the ORM processes in these banks and the various methods and tools used for the process. The research provides in depth study of ORM process in UAE banks and helps in assessing the efficacy of the programme.

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# CHAPTER ONE

## INTRODUCTION

## **1.1 Introduction**

Operational risk as defined by Basel II is “the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.” Basel II is the first primary document for banking industry which has defined operational risk and thus the treatment of this risk has been excessively discussed in Basel II. Although operational risk is not new to banks, but its control and importance has become a key factor for all banks which wish to remain competitive.

Basel II, the New Capital Accord which was approved in June 2004, has made it imperative for banks to calculate a capital charge for operational risk just like credit and market risk and has provided three different methodologies to calculate the capital charge. Hence it is important for the banks to manage this risk economically to lower the capital charge. This is the main reason for development of Operational Risk Management (ORM), as banks have realized that in order to have minimum capital charge, they need to manage this risk with great degree of skill and sophistication.

## **1.2 Need for Operational Risk Management**

As we all know that during the current situation the availability of capital has become scarce and it is in the best interest of the management to mitigate operational risk to the maximum in order to have greater returns on the capital. Hence the concept of ORM seems even more important and indispensable given the current credit crunch. ORM has been there for ages, but the concept has been given new vision and greater importance by all the banks across the world.

The other reason that ORM is so important is because operational risk is inherent to the basic working of the bank. It is not wrong to say that the only way to wipe off operational risk is to shut down the bank itself. Thus every bank knows that operational risk cannot be averted, but it can be mitigated to a great extent by having in place an efficient ORM practice which is able to study the risks involved in current processes and also provide foresight for the future risks that may be associated to faulty processes. The growing



importance of ORM is directly related to the globalization and deregulation of banking industry which has opened doors to new innovative ways of doing business, which are very complex in nature and hence attract greater risks.

Operational risk, unlike other risks, cannot be perceived and hence provides greater challenge to the banks. The losses associated with operational risk are also huge and can ruin the reputation and goodwill of the bank. Also it should be noted that just having a capital charge in no way releases banks from the responsibility of managing this risk on a day to day basis. There have been many instances of heavily capitalized banks which have suffered huge losses due to mismanagement of this risk. Banks should understand that operational risk can be every where, even in very basic transactions of the banks and does not necessarily have to relate to transactions of huge amounts. Banks in the past focused mainly on frauds and natural calamities and ignored the internal loopholes in the processes. Many a times operational losses have been brought about by the bank's internal staff, the examples of which are discussed in detail ahead.

Operational risk management in the past was considered as part of credit risk management. Many a times the board of Directors were provided with information that was not able to forecast the unavoidable risks in the future which resulted in banks making huge losses. This was the reason behind the failure of banks such as the Barings Bank which was completely demolished due to the derivatives fiasco. Hence all these scandals led to the revision of Basel I and Basel II was formulated which required capital charge for operational risk. Also it is important to note that although operational risk is been treated as a separate risk, there still exists relationship between operational risk and the other two risks. Hence operational risk management is also management of complex transactions of credit and market risk which come outside the purview of these risks and the interrelationship between the three risks.

Thus banks all over have to comply with this criterion of Basel II and need to set up an ORM process in their respective banks. It should be noted that having a framework of

ORM is much beyond just complying with the regulatory standards. Banks themselves know the importance of efficient operational risk management and have come forward in a very encouraging manner to develop a setup required for formal operational risk management. Most banks have gone beyond the others and have developed highly skillful and specialized operational risk management unit. But overall banks are still in the path to modeling various methods and tools required for ORM.

### **1.3 Background to Research**

Operational risk has been an interesting topic discussion for most of the bankers and academics across the world. Operational risk is still quite ambiguous in nature and this makes it all the more dangerous to deal with as banks are still in the process of learning from their past experiences.

Benedikt (2002) talks about the importance of operational risk and sound measurement techniques for ORM. He suggests various methods of calculation of operational risk with their benefits.

Laviada et al (2005) have studied the ORM process in the Spanish Banking Industry with the help of questionnaire. The questions involve the methods of ORM, the difficulty faced in calculation of operational risk and the framework of ORM process.

Pnadey (2006) talks about measurement of operational risk in UAE banks and the methods used for calculation of capital charge. He also discusses capital adequacy of the UAE banks in terms of Basel II requirements.

## **1.4 Research Structure**

This research is focusing on ORM in UAE banks. Since April 2008, Central Bank of UAE has asked all the banks to have capital charge for operational risk and this can be done by adopting any of the three methods provided in Basel II, but the adoption of Advanced Measurement Approach will require prior approval from Central Bank. Hence since inception of Basel II in 2004 worldwide, it has not taken too long for UAE banks to become operational risk compliant. This research is dedicated to the framework of ORM in various banks and this is done by survey that was answered by leading banks in UAE. The research aims to find out the level of implementation of ORM in UAE banks and the soundness of ORM process. The questions are related to the framework of ORM, the duration of the setup, the kind of tools implemented and such relevant questions which would provide answers regarding the maturity and level of implementation of ORM in UAE banks.

The research paper is divided into four parts. The first part deals with detailed elaboration of literature available on operational risk. This part contains comments from various leading articles on this subject. The second part deals with the methodology that is been used in the research. There is a brief description about the questions that are part of the survey. The third part deals with the analysis of the results and the interpretation of these answers. The forth and the last section deals with the conclusion of the research.

## **1.5 Conclusion**

The research findings will help in evaluating the ORM process that is existing in UAE banks and the adequacy and maturity of the process. The research will help in determining the level of sophistication of the tools that the banks use for ORM, the difficulties faced by the banks and the overall framework of ORM process. The research will also be helpful in comparing the ORM process in UAE banks to those of advanced countries.

## CHAPTER TWO

### LITERATURE REVIEW

## **2.1 Introduction**

Operational risk has been one of the most debated topics of discussion and there is varied amount of literature available on it. The purpose of this chapter is to discuss the importance and the evolution of operational risk from the past till the present. The chapter discusses the unpredictable nature of operational risk and what impact it has had on the banking sector. There is also detailed discussion on Basel II Accord which incorporated operational risk in the banking sector.

The chapter also focuses on the need for operational risk management in banks and the views on this from various known bankers and academics. There is ambiguity regarding the methods that are available for calculation of operational risk charge, especially the AMA method. The evaluation of these methods is also discussed in the chapter. In addition to this the chapter focuses on the surveys done in the past which have assessed different banks on the kind of ORM process that they have adopted.

## **2.2 Introduction to Operational Risk**

Operational risk is just one of the risks that any financial organization faces in its day to day functioning; the other risks are namely credit and market risk. Wahler (2002, p 10) says that there are many definitions of risk and characteristics of risk, but the ‘most common features of risk are that they are singular in nature with severe consequences, can be assigned probabilities, can occur any time and are caused by the environment.’ The main difference between operational risk and other risks is that while other risks are closely associated to business and driven by revenue, operational risk is not willingly incurred and does not promise compensation, Wahler (2002).

Operational Risk Management has become indispensable to the mere existence of the banking organization. As per Wahler (2002), even if sound Operational Risk

Management can reduce the underlying risk exposure by 10%, it would free up €254 million which could be used to hand out €2,175 million in additional credits, assuming a capital ration of 8%. This clearly shows that banks, by efficient system of operational risk management, do not only strengthen the stability of the organization but can also look to maximize their returns and increase the profitability of the institution.

The main drivers of operational risk in the present times have been increasing complexity of business organizations, increasing reliance on e commerce and massive mergers and acquisitions transactions, Karow (2002). For example e commerce is the new efficient way of doing business but it has led to an increase in allocation of activities that have higher risk and hence higher return ratio. Also with the need for closing business transactions with speed and minimum time span, has led to strain on infrastructure and emergence of new kinds of risk such as reputational risk and customer service failure risk, Karow (2002). Decentralization and employee empowerment are other two factors which have led to increasing exposure to operational risk by bestowing the line managers the freedom to make their own decisions which might have adverse effects on the business if there is not enough transparency on decision making, Karow (2002). But the process of decision making should also involve the participation of the line managers as they are the ones facing the risk, but it is important to have an environment which encourages whistle blowing and control mechanisms are adhered to in their strictest sense, Karow (2002).

Operational risk should be well understood by the top management of the bank as then only it will be recognized as a top priority for the decision making. McDermott and Davies (2008) explain operational risk management in very simple terms which can be easily understood by the managers. They say that operational risk management cannot be done only by making reports, it requires reports which are aggregated, analyzed and interpreted and presented to the senior managers within a framework that they can act on. Credit and market risk management have been known as the primary risk departments in the bank and the work of this department is closely associated with risk mitigation. McDermott and Davies (2008) say that in case of operational risk there is no limitation

and it just cannot be restricted to a single department. Operational risk is present in the IT or even in the HR department and hence it is required to think of operational risk as a risk which is prevailing in every part of the organization. In easier words every staff of the bank needs to be deputed as an operational risk executive, McDermott and Davies (2008).

McDermott and Davies (2008) say that quantification of operational risk is another important area which would make the risk management more efficient. Credit and market risk are relatively easier to quantify than operational risk, hence quantification of operational risk is a huge challenge for all the banks. Many models have been developed for the same and it is important that banks study these models in light of every area of decision making under different scenarios and implement control mechanisms which can prevent such unforeseen events, McDermott and Davies (2008).

Sundmacher and Ford (2004) discuss the non transactional aspect of operational risk in their paper. Operational risk is much beyond just developing models for the measurement of operational risk and setting aside required capital for the same. The governing body of a bank and the management all aspire towards maximizing returns on their risk measurement activities and this is possible only when they look beyond risk models and control mechanisms and nurture conducive environment and develop right kind of processes to mitigate this risk. Operational risk measurement is an evolving process and it deals with the losses arising from failed processes and people. It has been seen that in many banks, the incentives and bonuses earned by the employees of the banks might become detriment to the overall profitability and stability of the bank, as unscrupulous traders might, in the greed of earning higher incentives may jeopardize the bank's position. Hence the management should ensure that assessment of the staff is done keeping in mind the risk adjusted performance of the staff.

### **2.3 Basel II and Operational Risk**

Basel II was the first to incorporate capital charge against the amount of operational risk that a bank faces. Prior to this only credit risk and market risk had fixed capital charge. Basel's adoption of this requirement was radical in enforcing the banks in developing a serious attitude towards operational risk.

Operational risk was not very well recognized in the past not even in the Basel Accord of 1988. It is only in the revision of the 1988 Accord, in 2001, that explicit importance was given to operational risk management as a topic of great importance. Netter and Poulsen(2003) in their paper discuss the changes made since the 1988 Accord for the purpose of creating a sound operational risk management process among financial institutions. They emphasize the inclusion of operational risk for calculation of minimum charge was not the only change in the new accord, but the Basel II also brought about changes in calculation of credit risk by providing different risk classification in lending to a large business as compared to small businesses.. Netter and Poulsen(2003) have agreed with the inclusion of operational risk for calculation of capital charge, but they are skeptical about how correctly it can be measured and quantified. Credit risk calculation has its basis in determination of interest rate which can be easily quantified as compared to operational risk measurement which stems from failures in people and processes and other unquantifiable factors such as theft, terrorist attack, irresponsible trading etc., Netter and Poulsen(2003).

Netter and Poulsen(2003) also argue that Basel II should show more importance to other risk framework, like credit risk, as operational risk cannot be mitigated by implementing the methods available for its calculation as each method has its drawbacks. Also operational risk should mean more importance on internal control, and not in setting aside capital for any unforeseen event. Hence banks might become negligent by only focusing on determining sophisticated models and ignoring proper internal control mechanism

In July 2002, the Basel Committee (2002a) published a document known as Sound Practices for Management and Supervision of Operational Risk. This paper provides an excellent overview of Basel's work on operational risk. Basel Committee (2002a)



explains that operational risk has increased in the recent times as banks have become more complex than what they were in the past. Banks have resorted to use of automated technology, large scale mergers and the use of sophisticated models for minimizing credit and market risk, all these factors have led to an increasing exposure to operational risk. The document then suggests sound practices for operational risk management. As per Basel, operational risk is different from other kinds of risk as there is no direct tradeoff for expected return. It is for this reason that sometimes not much importance has been provided to operational risk by the management of the banks. Hence for this reason banks should develop appropriate risk management environment adopting procedures and policies to mitigate operational risk.

Basel Committee (2002a) has outlined three different approaches for the measurement of operational risk. The Basic Indicator approach is the simplest and states that the required capital for operational risk would be equal to a fixed percentage of an indicator namely gross income. Standardized Approach classifies the business into eight different lines and again uses gross income as the indicator measure for the capital charge. The third approach known as Advanced Measurement Approach (AMA) is most sensitive to a bank's ability to manage its operational risk. This method is firm specific and uses bank's internal models using the banks past loss data, external data, scenario analysis and risk mitigation techniques.

Basel Committee (2002a) stresses on the importance of the other two pillars as well, Pillar 1 supervisory review and Pillar 2 market discipline. Banks are under obligation to disclose to the public the means of measurement of operational risk and the supervisors also need to assess these techniques and the adequacy of capital set aside for operational risk.

## **2.4 Critical Evaluation of Basel II**

Basel II Accord has been ground breaking in bringing operational risk into the light and enlightening the banks about having adequate capital in an event of loss resulting from failure of operational risk management. Yet some of the proposals of Basel II have been criticized as being vague and also emphasizing too much on just having adequate capital and ignoring the risk management aspect.

Bielski (2003) discusses the contradictory views of bankers regarding Basel II's operational risk. Some believe that Basel Accord has dealt with operational risk very vaguely only emphasizing on placing capital charge against it to show that it is important. Instead of this, it could have focused on Six Sigma or other business process improvement projects which would be beneficial in implementing high levels of control mechanisms in the organization, Bielski (2003).

But some such as Joe Sabatini, Managing Director, Head of Corporate Operational Risk at JP Morgan Chase believes that Basel Accord is right on the target, Bielski (2003). He says that Basel Committee was very flexible in suggesting measurement techniques and even welcomed suggestions from the banks. Most bankers feel that Basel Accord on operational risk is a way of engaging in thorough risk protection programme which is beneficial to the stakeholders and also provided competitive advantage, Bielski (2003).

Pezier (2002) critically examined Basel's proposals on Operational Risk. In his research he has disagreed with the ideology of keeping adequate capital aside for operational risk and the banks feeling safe about making provisions for this kind of risk. Operational Risk by nature cannot be estimated as it does not only deal with the past loss data, but requires studying the future probable losses which can only be done by using a hypothetical model which would have to be subjective in nature. As per Pezier (2002), Basel needs to propose measurement techniques that are objective in nature, in order to facilitate the role of the supervisors, and bring down the level of capital requirement. Also there is a need to provide incentive for better risk management techniques by the banks which should translate into reducing capital charge and would qualify these banks to use the advanced measurement approach for calculating operational risk.

Moving away from capital issue, the methods used for calculation of capital charge have also received some amount of criticisms. Pezier (2002) criticized measurement techniques used by Basel. In case of Basic Indicator Approach, gross income has been used as an indicator on which the fixed percentage charge would be used to calculate the capital requirement. But gross income is not a correct indicator as most businesses with greater gross income are probably larger in nature and also might be in a position to employ more sophisticated operational risk management tools. Also businesses can be tempted to increase profits by reducing expenses, instead of increasing gross income, which might come at an expense of an expensive but effective operational risk management tool. Standardized Approach divides the entire banking into eight business lines and again uses gross income as an indicator to calculate capital charge from each business line and it states that total charges would be sum of charges of each business line. But it is not prudent to assume that low frequency risks in a business line such as corporate banking can be related to high frequency risks of volatile retail banking. For Advanced Measurement Approach the banks have to demonstrate to the supervisors that banks have the ability to correctly calculate all severe tail losses with the confidence level of 99.9%. But again this is an impossible task as future losses cannot be calculated with such precision.

Sundmacher (2004) also comments about the lack of justification regarding gross income being treated as an indicator for capital charge for operational risk. In his paper, he discusses examples of Barings Bank and Allied Irish Bank, as both banks were bankrupt following the fraudulent and reckless trading done by their lead traders, Nick Leeson and John Rusnak respectively. In case of Barings Bank, Leeson reported profits where the bank was actually making losses. Sundmacher (2004) says though the gross income approach was correct in the sense that capital was kept aside considering gross income was high in case of high profits, but it still did not throw light on the actual losses that were concealed by Leeson. Hence even after the capital charge, the bank was declared bankrupt. Here the question also arises about those banks which do make large profits, and are forced to set aside large amount of capital for operational risk, in which case

being profitable might actually prove to be encumbrance to the bank. Where as there can be banks, which make trading losses but would have to keep aside lesser capital for operational risk, as gross income would be less or even negative. Hence for trading line, the volume of trading might prove to be a better indicator than gross income, Sundmacher (2004) Also there is a danger of financial institutions, with high gross income, underwriting risky loans to maintain its target equity ratio as large capital would have been set aside for operational risk. Underwriting of risky loans would have to be done to increase interest rate margins which again would lead to high capital charge as more risk is associated with such loans. Thus the bank would find itself in a vicious circle of increasing risk and capital charge.

Sundmacher (2004) also suggests other indicators for operational risk charge. One of them is cost – income ratio. A bank which has experienced considerable reduction in cost might pose concern for the regulators, as reduction in cost could have been due to lack of expenditure in audit or monitoring systems. Hence a higher charge for operational risk should be applied. But Sundmacher (2004) suggests the reduction in cost should be studied thoroughly as efficient banks which have been able to reduce cost, but at the same time have maintained the required level of control and monitoring should not be unnecessarily penalized. Other non financial indicators of operational risk are ratio of back office staff to front office, the level of trading allowed for a single trader and the proportion of incentive based remuneration, all these aspects are very crucial in a trading division of every bank.

Moosa (2008) critically evaluates the AMA approach to operational risk. As of now AMA approach has been left for the larger sophisticated banks to implement, after they have satisfied the regulators regarding the viability and efficiency of their risk modeling tools. AMA is supposed to reduce the capital charge as compared to the other two approaches, and hence it gives incentive to the banks to develop their own models. But there are large problems associated with this approach. Moosa (2008) cites many areas of problems with the AMA. Firstly it is not very sure what constitutes AMA, mainly the techniques such as loss distribution approach (LDA) or the internal measurement

approach (IMA) should be used separately or jointly. These techniques use VAR (value at risk) to calculate the risk exposure. VAR has been criticized on many grounds such as it does not capture risk exposure properly in case the returns are not normally distributed, which is a very common phenomenon and also it may tend to ignore low probability and high impact scenarios. Also there are serious drawbacks regarding the loss data maintained by the banks. The data collected by the banks also under represent low frequency events and many times might be incorrectly classified as credit or market risk. Even when the external loss data are reconciled with internal data, the accuracy is hampered, as risk patterns from another firm cannot be the same for every firm as it depends on various factors such as business activity, control environment, risk management tools. AMA approach also creates differences between small scale and large banks as AMA can only be implemented by the large banks which should lower their capital charges vis-à-vis the smaller banks and hence give the bigger banks an advantage. But usually this is not the case, as development of such tools require huge resources and the cost undertaken might actually wipe out the capital charge advantage provided by the this approach. Also there is undue stress given on satisfying the regulators regarding the tools developed by the banks. If it were left solely on the banks to develop its tools with own its discretion, it would be better as banks of course are weary of the risks faced and would do everything to reduce an undue loss due to such kinds of risk. Hence in trying to please the regulators, the banks might actually manipulate its internal model and might later blame the regulators for any major losses suffered by the banks.

## **2.5 Operational Risk Management**

Power (2003) discusses the prevalence of operational risk in the finance sector.

Operational risk as a subject has gained importance in the past decade, but its existence has been there for many years. Banks have always been aware about risks involved in information technology, human errors, fraud, infrastructure and similar issues. But all these risks were treated as residual risk after market risk and credit risk, until Basel II gave it an official recognition. Operational risk management is beyond departmentally based risk management, and involves greater insight into risks for the entire banking function as a whole. For example stress testing market models is a part of market risk, but failure to carry out these tests against unfavorable market conditions would be treated as operational risk, Power (2003). Hence it can be said that operational risk management is to oversee the organizational environment of market and credit risk management.

Power (2003) says operational risk management involves collecting accurate data from the historical period and determining expected loss from this data. But this task is most difficult and the data collected sometimes is not very accurate as some serious operational risk events may not be clearly linked to any particular transaction. Also sometimes there is deliberate concealment of risky events by the units, as they try to please the management by showing a lower risk and therefore lower capital charge assigned to the unit. On the other hand risks and losses may be over stated and exaggerated in order to acquire more resources from the management. To resolve these issues, a number of institutions such as BBA in UK, have been set up to gather loss data from various banking institutions and to increase the accuracy and quality of information available for operational risk management

As said before, operational risk has been in existence for a very long time, but it is only in recent times that financial sectors have understood the importance of managing this risk. Operational Risk Management (ORM) traditionally included everything else except for credit and market risk. Hence ORM was misunderstood by most of the banks and as a result banks had to suffer huge losses on account of risks which they never imagined would ever occur. Laviada et al (2005) discusses the reasons behind the growth of ORM, first being that institutions started to believe that efficient ORM could help in achieving

objectives of their organization and also without ORM it would be impossible to manage operational risk as traditional approaches provided inadequate facts for proper estimation of operational risk and the facts provided were mostly flawed in nature.

Laviada et al (2005) explains that ORM comprises of quantitative methods such as creating event databases and qualitative methods such as creating tools for identification and follow up of ORM. ORM requires close implementation of both these methods, in addition to adopting a framework to analyse data and risk evaluation and to translate them into exposure to operational risk. It can be said that ORM is not just quantification of operational risk, but it is a process of improving managerial practices and implementing control mechanisms and involving employees to create a efficient and conducive environment for early detection of operational risk. Supervisors should not just emphasize on creating a capital charge on every small risk, but must encourage banks to develop and implement models and procedures which would work towards mitigating operational risk.

Operational risk management requires collection of both internal and external loss data, and a study of such data to determine the losses that the future might have for the organization. Pandey (2006) explains in detail, the nature of such data and the process of analyzing the facts. "Internal loss data is about the frequency and severity of loss history of a bank due to operational risk events." (Pandey 2006). The data collected should relate to the current business activities of the bank. Various statistical techniques such as gamma normal, Pareto and Lognormal are used to determine the best fit to the event data. Then the threshold limits are decided, which in most banks is up to US\$10,000. Pandey(2006) says that other important aspect of quantification of operational risk are Key Risk Indicators (KRIs). These indicators track exposure or losses and are most useful when the volume of transactions is high.

In addition to internal loss data, external loss data also plays a crucial role in the measurement of operational risk. Pandey (2006) believes that mixing of internal and external loss data should be avoided but the external loss data on its own can provide

valuable insights into risky events. But the basic problem with external loss data is that it is extremely difficult to search for all these events and sometimes even the companies may not disclose these facts in the most popular search domains. Scenario analysis is also an important part of operational risk measurement and it helps the organization in gauging the risk events in different kinds of probable scenarios. Again Pandey (2006) stresses on the importance of effective control mechanisms with importance on procedures that capture risky events in key business environment. The process of operational risk management is forward looking in nature and must be updated to adapt changes in the environment.

Hager et al (2007) talk about Basel II's Advanced Measurement Approach for calculating operational risk charge. They say that as per Basel Accord a bank has to demonstrate a certain level of sophistication in its risk modeling techniques for it to qualify for the AMA. AMA has grown in importance because it would lead to a lower capital charge, but banks should work towards AMA as it would make their risk models more effective and hence would help them control their operational risk in a more sound way, Hager et al(2007).

Hager et al (2007) say that banks use a number of risk models such as VAR to estimate the probability of loss distribution and the probability of its occurrence based on historical data. Most banks have to import from external sources as their own data is inadequate. In doing this, banks have to be careful in the results that they show as imported data may not always show the correct picture of the bank's estimate of operational risk and might produce irrelevant results. Hager et al (2007) says that instead of this banks need to focus on building a framework that focuses on analysis of the probability of loss events occurring, rather than their consequences. The analysis is based on causal modeling, visualizing loss scenarios and their causes, instead of traditional statistical analysis, Hager et al (2007).



The requirement of operational risk management, though a breakthrough in the banking industry, has still caused disagreement and posed problems of implementation and strategic planning. Currie(2004) agrees with the fact that operational risk management can to a certain extent prevent banks failures such as Barings and Allied Irish Bank, but just setting aside capital for operational risk cannot prevent happenings of such nature. The role of capital is to act as buffer in against potential losses, but in some cases of severe credit and operational risk failures, the losses have almost equaled the bank capital. Hence what is also required in addition to operational risk management is a change in thinking culture, an efficient corporate governance system, and a recognition and correction of the flaws in the external regulatory model.

Currie(2004) says that summarizing all operational risks into one model might cause complacency and may mislead the bank as being in control over the situation, when in fact the models can be faulty and unverified. Also the management may be tempted to give undue importance to reducing the model estimate of operational risk and in course ignore the core issues. Operational risk models are based on past data and losses, hence it might mean focusing on the past and the management might become ‘prisoners to data history’. There is also disincentive to whistle blowing policy as anyone who reports to the management regarding a faulty process might end up bringing on additional capital charge for the bank. Hence the management may get into a dilemma as to encourage such actions or to downplay the same.

Cernauskas and Tarantino (2009) say that Basel II requirement for a charge on operational risk has led many banks to use VAR as a methodology to calculate the capital charge. VAR provides risk exposure measure based on historical data but does not provide any information on the drivers of operational risk. Cernauskas and Tarantino (2009) say that in order for the banks to move to the next level of ORM, banks will have to implement key risk and performance measures that will require cooperation from the operations staff and the risk managers who understand the entire business process. Cernauskas and Tarantino (2009) point out that the current capital modeling which

calculates the capital level of a bank does not take into consideration the factors that cause operational risk. In order for the process of ORM to become more comprehensive and sophisticated, banks will have to identify and collect data on probable key risk indicators and develop models which take into account the causes of operational risk. This will help to assess the impact of change in the environment and internal controls on future losses, Cernauskas and Tarantino (2009).

Cernauskas and Tarantino (2009) say that business process modeling will help banks in developing models that will be more efficient. “A business process can be defined as a series of transformation steps used to create information from data.”<sup>1</sup> For example the past loan applications can be used to provide creditworthiness indicators. Cernauskas and Tarantino (2009) also add that in order to have improvements in the business processes it is important that there is some level of governance as it creates responsibilities and helps to manage the processes from beginning till the end.

In recent time the concept of Enterprise Risk Management (ERM) has gained tremendous importance. Griggs (2008) in his article talk about the interconnection between ORM and (ERM). Basel II has classified risks into three broad categories of credit, market and operational risk. Even before Basel II, credit and market risks were in the picture, but operational risk was treated as a residual risk. ERM in simple terms is to create value for shareholders through integrated management of risk, Griggs (2008). To explain this further, financial institutions need to take business decisions that provide them with highest returns. These decisions will obviously include elements of risk. Hence ERM means to balance risk and return in order to provide maximum value to the shareholders, Griggs (2008). ERM integrates all kinds of risks under one umbrella because it is well known that each of these risks has close correlation with each other. Operational risk is the risk involved in people and processes and ORM is to manage these risks which is similar to the concept of ERM. Hence ERM could be defined as creation of shareholders value by integrated management of operational risk, Griggs (2008).

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<sup>1</sup> Deborah Cernauskas, Anthony Tarantino. The Journal of Operational Risk. London: Summer 2009. Vol. 4, Iss. 2; pg. 3, 15 pgs

Griggs (2008) says that for efficient ERM and ORM it is important to study data and make judgments only on basis of cause and effect relationship as there is no point of drawing conclusions where there is irrelevant correlation because it would just be wastage of resources and time. By giving examples of traders like Nick Leeson, Griggs explains that by just focusing on the control mechanisms of market risks, banks fail to see the bigger picture and market volatility is able to take advantage of operational flaws and process loopholes.

Barnier (2009) discusses the key factors that are indispensable to efficient operational risk management system. He says the risk governance should be implemented across all levels of the bank, from the COO and CEO, to the Operational Risk Manager and functional managers of IT and other departments, till the ORM working team who report directly to the Operational Risk Manager. Barnier (2009) notes that for efficient ORM, it is important that both the processes for governing and processes being governed should account for risk.

Scenario analysis is another important factor for efficient ORM. Barnier (2009) says that scenario analysis should be comprehensive and should include all plausible events such as fire, natural calamity, weakness in the market situation, which will help in tapping the loopholes of the system and processes. Future risk can be averted to a great extent by building an exhaustive set of scenarios. Barnier (2009) also says that Key Risk Indicator (KRI) and Key Productive Indicators (KPI) should be aligned to have better control on the internal processes. Hence there would not be any gap in the target to be achieved if both were aligned and the productivity would be achieved with the least involvement of risk.

## **2.6 Surveys and Discussions on ORM**

There have been numerous surveys conducted on ORM in various banks. The survey results have helped in understanding the development of ORM in banks.

In January 2004, Fitch Ratings published a report titled, “The oldest tale but the newest story: operational risk and the evolution of its measurement under Basel II”, which looked at the progress of ORM in banks around the world. In continuation to this report they conducted a survey in 2004 known as “Operational Risk Management & Basel II Implementation: Survey Results.” The survey was attended by around 50 of the world’s largest banks and provided very important findings regarding Basel’s approach on operational risk. AMA approach would ensure a lower capital charge only when diversification would be considered. Diversification is a key point as it is very evident that banks can reduce much of their risk exposure by diversifying into various products and also by geographic diversification. Diversification was not considered for the other two approaches and hence the capital charge calculated is unusually high. Hence AMA approach to a certain extent does drive the banks to develop its own risk models in the hope of reducing its capital charge.

The survey showed that 65% of the banks use risk and control self assessment and 32.5% use key risk indicators as the main tools to identify operational risks. While 37.5% use risk mapping and 10% use scorecards as additional tools. The survey suggested that most banks use bottom-up approach to involve the business units in providing valuable inputs about the risks that they face. The biggest challenge that banks face is the collection of loss data. About 43% of the banks collected at least 1-2 years of data for some business units and another 43% between 2-3 years or more years of selective data. Only 13% of the banks collected one year or less of data. Also there was concern regarding overlapping of risks with credit and market risks. Basel has devised a model to overcome this problem and most banks have accepted to use the same. On the other hand AMA has the advantage of making capital requirement sensitive to the risk exposure if the models have been designed with accuracy and have incorporated all various kinds of risks faced by the bank.

A number of other surveys have been done regarding different aspect of operational risk management. SAS, a market leader in providing business intelligence and software, conducted a survey called, “Operational Risk Management in the Financial Services Industry” in 2004 to study the impact of operational risk management among the financial institutions and the key concerns experienced by them. The respondents totaled a staggering 250 global financial institutions. In the survey it was found that the biggest obstacle to successful operational risk management was difficulty in collating historical data. The survey also classified the biggest operational risk faced by the institutions, and it was found that IT related issues were still the most dominating issues, the other risks such as customer relationship risk and compliance related risks were some of the other major contributors to operational risk. The survey also showed some very encouraging findings regarding have an efficient operational risk management system. Respondents felt that having an effective operational risk program can reduce the economic capital by 10%. In addition to this the survey suggested that operational risk models can also reduce expected losses by nearly 17%. Hence the survey results show that though operational risk management is not an easy task for a bank, but a bank’s growth and stability does to an extent depend on having an efficient and growing operational risk management program.

In the recent times, banks and regulators have agreed with the fact that operational risk, is the first risk that banks must manage, even before they make their first loan or execute their first trade. An article by the name of “Operational Risk Management- The Next Frontier”, was published in 1999.<sup>2</sup> The article showed results of a survey conducted among 55 financial institutions worldwide regarding the implementation of operational risk in their respective organizations. Though the institutions had varied results regarding the importance and the progress of operational risk management in their organizations, they all unanimously agreed that operational risk management was a key force in protecting and enhancing shareholder value. Most of the organizations had already appointed a Head of Operational Risk, who would be reporting to the Chief Risk Officer,

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[http://www.rmahq.org/RMA/RMAUniverse/ProductsandServices/RMABookstore/Publications/oprisk\\_execsum.htm](http://www.rmahq.org/RMA/RMAUniverse/ProductsandServices/RMABookstore/Publications/oprisk_execsum.htm)

showing that banks felt that sound operational management policies would be one of the key drivers in improving banks earnings and stability. Also various methodologies have been developed for operational risk management, and there is an active participation of the Board of Directors in reviewing policies and procedures. Though different banks implement different strategies and methodologies, what is common is a move towards risk-based, bottom-up methodologies. A basic framework has been set up in most banks, comprising of five key components namely, strategy, risk policies, risk management process, risk mitigation and operations management.

In line with the surveys mentioned above, KPMG in 2002 published an article looking at the impact of Basel Accord regarding operational risk. KPMG Basel Briefing (2002) emphasizes the vague qualitative criteria for management and mitigation of operational risk. The article talks about the fact that Basel, has no doubt given high level of importance to the role of operational risk in the financial sector, but it has not developed any effective tools or processes which can be undertaken by the banks to manage operational risk. On the other hand Basel has given high level of priority to the role of the supervisors in conducting and implementing the process of operational risk management without setting aside clear and objective guidelines for the management process.

The Briefing also mentions that creating robust operational risk management process requires agreement between the risk management unit and the business unit, investing in time and resources and developing a model which collects past operational loss data and can analyze corporate information for the future periods. Basel's operational risk charges such as alpha and beta have also known to be vague in nature as discussed before. A survey was conducted by KPMG among the UKs Fund Managers, and the results showed that most of the managers, even among the very developed and sophisticated banks, would opt for a Standardized Approach as clear guidelines were not set aside for the development of tools for the Advanced Measurement Approach and there was also uncertainty in regards to categorizing losses and benefits and preparing a solid commercial case

In 2008 RMA's Operational Risk Council commissioned McKinsey & Company to conduct a survey regarding the future of operational risk discipline in the banking industry. Between 2008 and 2009, McKinsey studied 28 banks across Europe and US and provided conclusive evidence of rising importance of ORM function. Operational risk management becomes all the more important in the current downfall of the economy. This is due to the reason that in times of stress there is breakdown of processes, which lead to ignorance of vital control mechanisms in order to provide short cuts to processes. This may further lead to fraud, mis selling, privacy breaches which may ruin the reputation of the bank as investors will feel that the bank has become complacent in its policies and discipline. This will definitely lead to situations where scandals can be caused and banks might become bankrupt.

Another important finding of this survey was that banks do realize the importance of operational risk and have taken various significant measures to develop processes that will help in reducing this risk. For this banks have to make operational risk mitigation part of its culture and business strategy. Banks need to feel that every business decision should be taken keeping in mind the risk associated with the decision. Hence ORM should be present across all the business lines and there should not be any difference of opinion between the business heads and the risk heads. By making ORM as part of its culture, the bank will be able to create an environment of risk awareness, and will foster a feeling of unanimity across staff that operational risk management is the only way forward in today's time.

As we can see operational risk has become immensely popular as an important topic of discussion among the various heads of banks. William L. Rutledge, Executive Vice President of Federal Bank of New York, made some very important comments about at a conference in Orlando. Rutledge (2004) said that operational risk in the past was generalized as part of 'back office' risk. Today the concept is unanimously considered to be a very fast and evolving area of risk associated with banks. As per Rutledge (2004),

the board of directors and the management must formulate and periodically review the operational risk framework of the organization. Here he made some important considerations which banks should accommodate in their functioning. Firstly, operational risk management should become part of incentive structure and bonuses and this should be determined on the basis of audit and compliance reviews. Secondly shifting of business line or introducing new products should be made in accordance to a positive feedback from the risk management unit and must not be solely business driven.

Now days outsourcing has become a very economical and business driven decision for most multinational banks. Banks outsource not only the IT expertise, but also most of the back office and operational functions, such as call centers, processing and accounting functions. Rutledge (2004) says outsourcing has contributed significantly in increasing operational risk. Banks should be aware that outsourcing, in no way, decreases or takes away the responsibility that the bank has towards that process or function. Contrary to this, it actually increases banks responsibility and accountability to see that the service provider is meeting all the requirements and criteria in the work delegated to it. This can be ensured by extensive due diligence and extensive contract negotiations.

Operational risk has been the growing concern for all the risk managers in various different banks. Carol Sergeant, chief risk director at Lloyds TSB Bank discusses about the ORM process in her bank. Lloyds TSB Bank is one of the four banks in the UK which has been allowed by the Financial Services Authority to use the AMA for operational risk capital charge. Sergeant (2008) says that in her bank operational risk has been divided into various kinds of risks such as risk related to process and resource, customer treatment, theft and fraud, change management and people related risks. The bank has adopted ORM in its culture and its strategy and there is significant involvement of staff in developing and managing risk related processes. Sergeant (2008) says that bank motivates its risk managers by providing them encouragement if they have been successful in implementing a key process or model. Sergeant (2008) explains that operational risk is ambiguous in nature and hence Llyods TSB is very concerned about



the future events. To build an adaptive and sophisticated risk modeling system, the bank constantly undertakes stress testing to see if it is prepared for all the unforeseen events.

Disclosure requirement for banks has gained significant importance due to the large capital base the banks have and to promote a sense of corporate governance and transparency in the banking industry. Helbok and Wagner (2006), investigate operational risk disclosure among various banks by analyzing the annual reports between the periods 1998 to 2001. As per Pillar 3, banks have been asked to make qualitative disclosure regarding the operational risk capital assessment for which the bank qualifies and if used, a detailed description of the Advanced Measurement Approach. Operational risk is starting to influence rating decisions and thus a bank's cost of capital, Helbok and Wagner(2006). Basel Committee has also published a number of surveys regarding the same and the result showed that, "In 1999 only 63% of the surveyed banks disclosed information about main types of operational risk, this figure increased to 82% in 2000 and 91% in 2001".<sup>3</sup>

Helbok and Wagner(2006), provide important conclusions regarding disclosure of operational risk. They say that if a bank provides little or no information regarding the bank's operational risk management, it might lead to an over estimation of the risk by the outsiders which might consequently result in investors demanding higher return. But on the contrary it is seen that banks which have less capacity to absorb operational risks might voluntarily like to disclose about their capabilities and sophistication with respect to operational risk management in order to assure the market that severe operational losses are less likely to occur. Either ways, banks have become more serious about disclosure regarding operational risk, as it gives them a competitive edge in the industry.

In the recent times, rating has become an important benchmark for comparing one bank to another and it has also made banks more competitive. In the field of rating, Moody's is one of the most popular and world renowned rating organization. Moody's Analytical

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<sup>3</sup> BCBS (2003b), p. 23

Framework For Operational Risk Management of Banks (2003),<sup>4</sup> gives a very detailed insight about the factors that are considered, in regards to operational risk, while rating a bank. As stated before, capital cannot be the only criteria of sound operational risk management in a bank and Moody's also believes in the same. Consequently there is direct relationship between the credit rating and the level of capital held by the bank. Moody's believes that true economic capital must be available irrespective of management practices or regulations to bear the brunt of massive losses in order to safeguard the interests of the creditors.

While studying the bank's operational risk management procedures, Moody's closely examines the operational risk definition that the bank uses with regards to how closely it able to justify the definition with regards to its programmes of internal control with support of its board of directors. Moody's considers the quality of management to be a key determinant in the credit rating of the bank. Other criteria include the framework of business unit, if a separate risk management unit exists within every business unit, if there is a high level risk committee in force or if the operational risk profile report is periodically reviewed and changes incorporated to make the system for adaptable to the market situation.

The current downturn of the economy which started off with the sub prime lending, has caused major destruction to banks all over the world. Banks have collapsed and huge numbers of people have been made redundant. Martin (2009) clearly explains the reasons behind the recession that has gripped the world over. He says that the current economic downturn can be attributed to the failure of risk management. Martin (2009) says that operational risk management exists in all industries in the world, yet the financial services industry has given it the least amount of importance. For example the airlines industry and oil and gas industry give enormous importance to failures due to daily

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<sup>4</sup> <http://www.gloriamundi.org/picsresources/maf.pdf>

importance as it affects the existence of the entire company and the lives of people involved.

Martin (2009) agrees that Basel II has made operational risk charge as a regulatory requirement in order for banks to take this seriously. But they projected the use of AMA only as a method that would reduce the capital charge and not as a method where the operational risk can be minimized due to existence of sophisticated modeling tools. Martin (2009), “The proactive management and prevention of operational risk is a much more valuable process than any attempt to measure the loss events after they have happened”.<sup>5</sup>

Martin (2009) says that the downturn has been caused by many factors such as the wrong business decisions made by the top management, the remuneration policies that placed too much importance on business targets and also the ineffective role of risk management. Risk management has been regarded as an advisory function of the senior management and this perception will change after the crisis. Risk managers did not have the power to stop any business decision taken by the senior management which would place the business at risk, Martin (2009).

Cagan (2008), discusses the subprime mortgage crisis, with emphasis on lack of operational risk management. Cagan says that primary causes of subprime crisis were the investors’ greed for yield and the industry’s need for fast growth, both of which were achieved at the expense of operational risk management. The banks policies of lending on mortgages led to miss selling, for which securities were sold to compensate for the credit risk. All this while the banks were aware about operational risk, but decided to ignore the same. The fall in the value of property was followed by the rise in default rate on mortgage payment, both of which contributed to one of the worst economic crisis ever witnessed. Cagan (2008) stresses on the fact that banks overlooked operational risk and concentrated on market and credit risk, failing to understand the intricate relationship

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<sup>5</sup> Philip H Martin, The Journal of Operational Risk. London: Winter 2009/2010. Vol. 4, Iss. 4; pg. 75, 10 pgs

between all these risks. Banks ignored important control factors such as due diligence, model validation, data accuracy and stress testing in lieu of making higher returns.

Cagan (2008) says that recent events have put banks under a lot of criticisms in drifting away from their primary duty of security to the investors and depositors. Banks need to understand that in undertaking new areas of business, the bank's strategy and culture should not be compromised. This can be done with strict adherence to operational risk management and rationalizing every business decision in terms of risk involved.

Pandey(2007) raises the question of who eventually takes ownership of operational risk. As per the Standardized Approach, each business line is accountable for the operational risk within its area of operation. "The concern on this approach is that unlike market and credit risks, which are transactional in nature, operational risk is more environmental." Pandey(2007). Also there is problem of accountability when it comes to taking ownership of transactions external to the business and outside the control of the management. Such events can include, natural disasters, terrorist attacks which have the potential to wipe out the business entity. Hence the only motivation can be business continuity and stability and with this in mind defence mechanisms are created. The management also needs to make sure that processes and control structure for operational risk management, have clear reporting lines and each business unit is aware of its responsibility and accountability. In case of Barings bank, the warning signals were ignored due to unclear reporting lines, which eventually led to the downfall of the bank.

## **2.7 Conclusion**

The chapter provided detailed literature on the importance of operational risk management and the Basel II's contribution on the same. The literature discussed has shown that operational risk management is dynamic in nature and banks are still in the process of developing the best tools that would help them in reducing this risk. It is evident from this chapter that operational risk will grow in importance in the near future as banks learn to deal with the lack of capital in the market due to the economic

downturn. Also the chapter showed that ORM is one of the crucial aspects of banking and a bank can really reduce its risk and capital charge by developing advanced risk models.

## CHAPTER THREE

### RESEARCH METHODOLOGY

### **3.1 Introduction**

The basic idea behind this research is to ascertain the nature of Operational Risk Management (ORM) among the UAE based banks. UAE Banks are also weary about the dangers associated with miss management of operational risk and hence are focused on setting up an efficient ORM process to fight the challenges of operational risk. The research aims to determine the steps undertaken by UAE banks towards measurement of operational risk. The research also aims to analyze the various tools employed by the bank for estimating operational risk. This chapter shows the details of the questionnaire that was used for the survey.

### **3.2 Methodology**

The research was carried on the basis of a questionnaire which was prepared on lines of a research done by SAS in June 2004. The survey was called, “Operational Risk Management in the Financial Services Industry.” This questionnaire comprised questions which varied from the factors determining the existence of ORM in banks to the kind of tools banks used and the depth of ORM programme in various banks. The questionnaire was distributed to 12 UAE based banks and answered by 10 banks and provided great insight into the operational risk management process of various banks.

The questions have been framed in a manner to provide information not only on the ORM process of the bank but also to provide some insight into the understanding of the role of ORM in the overall functioning of the bank. As discussed earlier operational risk has been given a lot of importance by Basel II as banks have faced serious consequences due to inefficient operational risk management. Hence the questions throw a light on how the banks perceive this risk and the level of importance that banks have provided in proper implementation of operational risk management programmes. The initial questions which include question no. 1 till question no. 4 relate to the operational risk management process of the bank and give an insight in to the bank’s strategy in regards to its operational risk management. The frequency of training provided on operational risk and

the encouragement provided by the management of the bank towards ORM have also been asked. Questions 5 to 15 relate to factors that have led the bank to build an ORM process in the bank and also relate to various aspects and risks which have been classified as operational risk for the bank. Every bank has its own risk appetite and the some processes may pose greater risk for one bank compared to the other. The questions also relate to the methods used to quantify operational risk and the level of sophistication in the processes and methods that have been employed by various banks. The problems that banks face in successful implementation of operational risk management programme have also been asked.

### **3.3. Conclusion**

This chapter discussed the methodology employed for the research topic. The chapter talked in detail about the relevance of the questions to the topic of research and in determining the ORM process of the UAE banks.



# CHAPTER FOUR

## SURVEY RESULTS

## **4.1 Introduction**

The purpose of this chapter is to analyze the answers of the questionnaire and to determine the reasons and conclusions for them. The chapter analyzes in detail every answer of the questionnaire that was answered by the banks. The analysis behind the answers helps to assess the bank's views and its stand in ORM. The analysis also helps in understanding the problems and hurdles that are faced by the banks in their ORM process. This chapter is important as it answers the basic research topic of the framework of ORM and helps us in understanding how UAE banks manage operational risk and the key drivers behind this process.

## **4.2 Analysis of the Results**

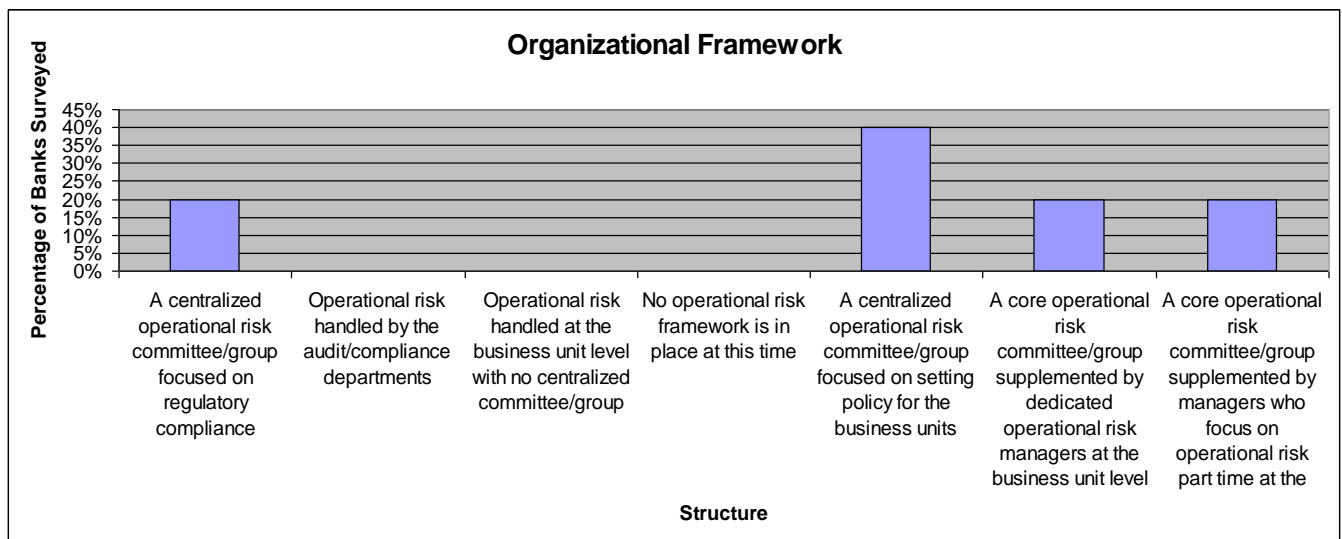
The analysis is done question wise and the answers are predicted by a graph shown at the end of each question.

## **Organizational Framework**

The first two questions of the questionnaire deal with the framework the bank has to set up to tackle operational risk in its day to day transactions. Having a clear organizational framework is one of the most important aspects of operational risk management as it provides clear responsibility and provides a homogeneous structure for processing of information related to operational risk. Internal Audit department also handles a similar role, but to have more focus on operational risk issues, Basel committee on banking supervision (BCBS) has recommended that every bank should have a department independent of Internal Audit, which should be accountable for operational risk management. The basic responsibilities of this department would be the development of policies and procedures for ORM and control, the designation and implementation of

methodology as well as identification, assessment and supervision of transactions related to operational risk.

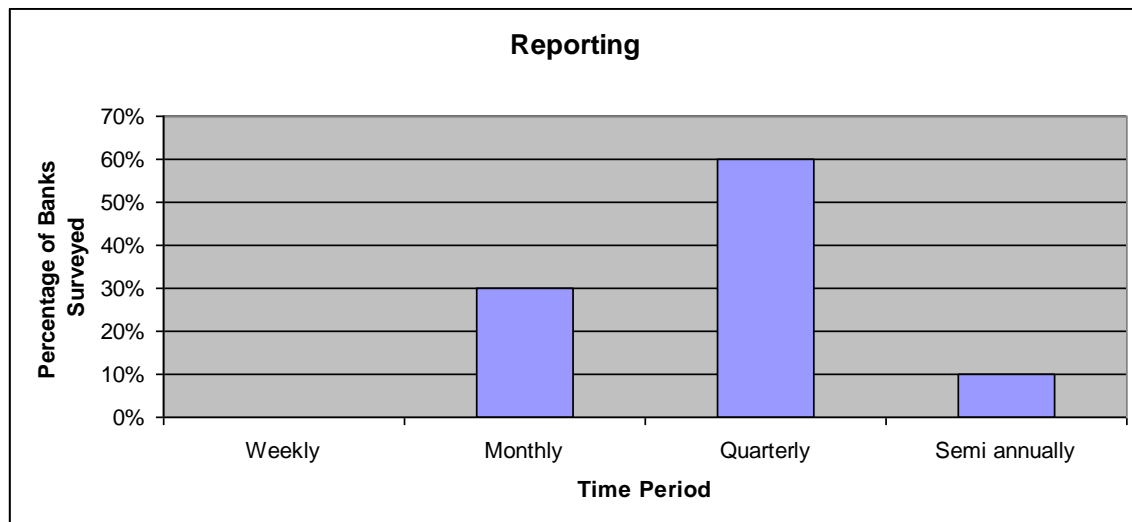
When asked the banks about the structure of operational risk set up, 40% said that they have a centralized committee which has been set up to develop policies to monitor operational risk. Another 20% responded that they have a core committee set up for the same supplemented by managers, while only a 20% have a committee which is supplemented by managers at a part time level while the rest have a committee set up to focus on regulatory compliance. It is encouraging to know that majority of banks have some kind of independent set up which is dedicated to setting up policies for business units and also have dedicated managers who have been given responsibility for the management of operational risk across various business units. The initiative by UAE Central Bank to make Basel II a regulatory requirement has paid dividends and the banks are on the right track to becoming more sophisticated in their ORM process.



## Reporting

Reporting is another main aspect of operational risk management as without proper channel and frequency of reporting, ORM process would become inefficient & ineffective. Reporting can be efficient only when accurate information is transmitted with a varying degree of detail which fulfills the purpose and the need of the receiver. Logically the business heads and the risk managers along with the audit department will receive more detailed information than the Board of Directors (BoD) or the top management, but the same needs to be transmitted and discussed with BoD & the top management regularly. The normal frequency for such reporting is on monthly or quarterly basis depending on the set up.

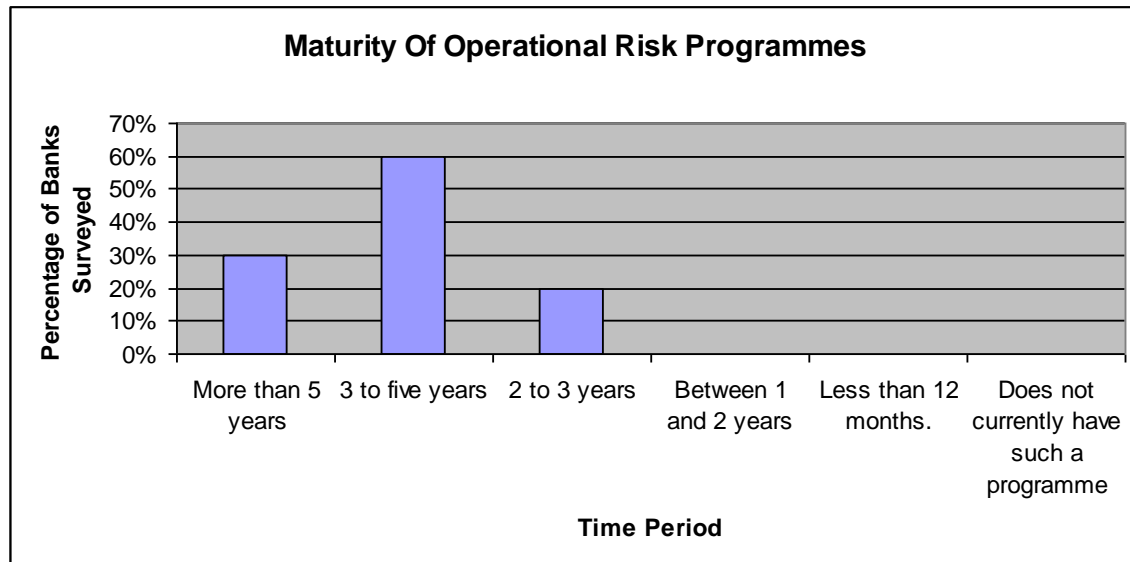
The banks surveyed have also shown that reporting regarding operational risk is done on regular basis with the higher management and BoD. 60% of the banks said that they share a detailed report with BoD which contains summaries of loss statistics. While 30% of the banks surveyed said that they report to BoD monthly regarding operational risk statistics, the remaining banks report semi annually. Besides the BoD, banks directly report to the senior management regarding operational loss information including major loss incurred and tendencies of indicators.



## **Maturity of operational risk programmes**

Though operational risk management process has gained more importance in the recent time, financial institutions are still in the stage of development of sophisticated ORM methods and tools. This is mainly due to the reason that other two risks namely credit and market risks have been there since the inception of the modern banking industry, where as operational risk is relatively new. For this reason there is still a lot of ambiguity involved in the understanding and mitigation of this risk. Hence banks are facing huge challenges in developing and implementing efficient ORM processes. The main obstacles faced by the banks are difficulty in collating historical data and poor awareness among the staff about operational risk.

As per the survey, it was seen that 60% of the banks have had an operational risk management programme running in their banks for the last 3 to 5 years. This shows that operational risk management as a practice has been here for quite some time and banks are aware of their responsibility in this regard. 30% of the banks even said that ORM has been existent in their banks for more than 5 years, which is a very satisfying result. The remaining banks have said that their ORM programme is 2 to 3 years old. It was very encouraging to note that all banks have an ORM programme running and the maturity of the programme has been quite commendable.

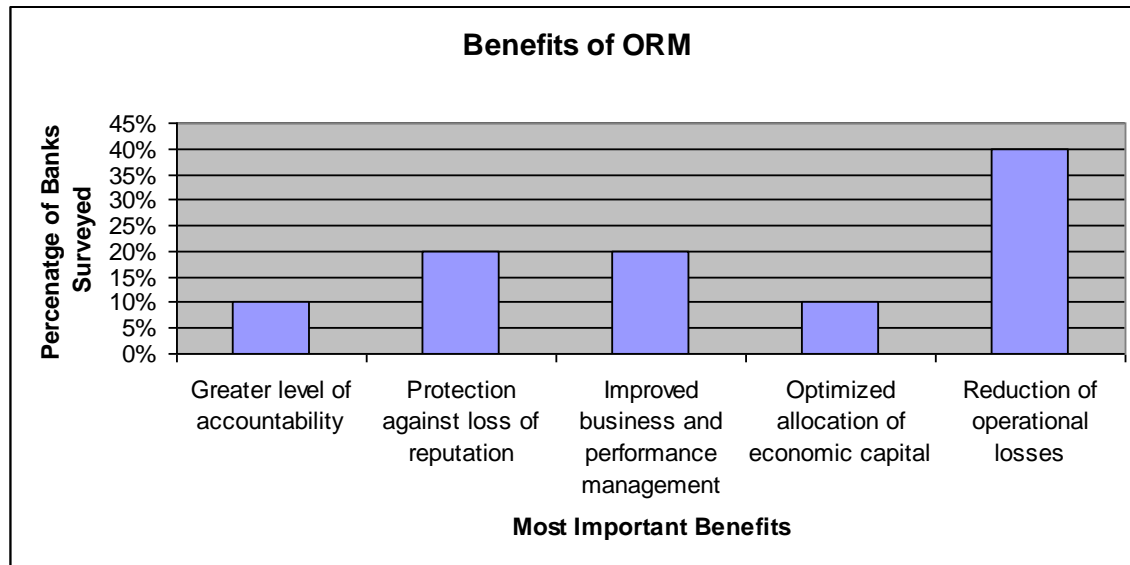


## Benefits of ORM

As already stated, operational risks have the ability to destroy any financial institution if necessary and corrective actions are not implemented at the earliest stage. Banks are at the advantage of providing the necessary stability to their organization if they adhere to a strict and efficient ORM system. The benefits of ORM go beyond the short term financial benefits as the returns on ORM have deep penetrating benefits which make the organization more capable of handling any adverse business and economic situations. Thus banks have voluntarily incorporated ORM in their strategy and Basel II's framework's recognition of the same complements the important aspect of ORM.

As expected, the main benefit of an ORM programme would be to reduce the operational losses of the institution and 40% of the banks felt the same. Hence banks are aware of the dangerous nature of operational losses and they know that right management of this risk is very important in bringing stability to the institution. 40% of the banks said that improved performance and protection against loss of reputation were the main benefits, as trust and reputation are the most important aspects in banking & financial industry and reputational losses or damages can be irreparable. 20% of the banks felt that ORM

programme could bring about greater level of accountability and helps in optimized allocation of resources. This is also true because a strict control mechanism does bring in greater level of accountability and responsibility and people are made aware of their limits and delegation while undertaking a decision.



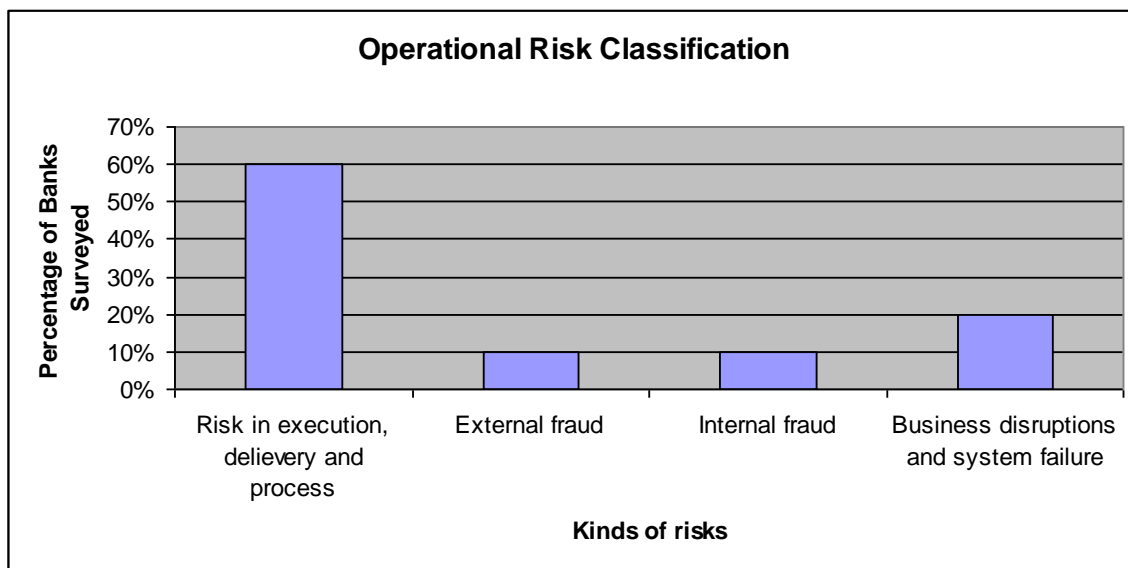
### Operational risk classification

In the past it was considered that any risk that does not classify under either credit or market risk would be classified as operational risk. Hence operational risk was also known as back office/residual risk or the risk in operations of various business units. This classification is very general and sometimes tends to be vague, but so is the nature of operational risk. It is not easy to have subjective classification of operational risk as it depends on the nature of the financial institution and its processes and systems. But broadly these risks emerge from 3 sources – people, processes & systems. These risks can be surface as fraud, risk in execution delivery and process management, risk by the actions of the staff and various other risks that are related to the day to day functioning and operations of a business unit.

As operational risk has been defined as a risk which is associated with people and processes, the survey results also show similar findings. 60% of the banks said that risk in

execution delivery and process was the main component of operational risk.

Development and implementation of processes is a very important and challenging job for every bank, as any process gaps can lead to huge losses and unfavorable results. 20% of the banks felt that business disruptions and system failure was a main contributing factor to operational risk, while the rest of the banks felt that external and internal fraud were the major contributors. Frauds though happen very rarely, but once they happen they can bring about major losses and can ruin the goodwill of a bank. Though UAE banks have been relatively free of frauds, but in recent times frauds related to credit cards have been on a rise.

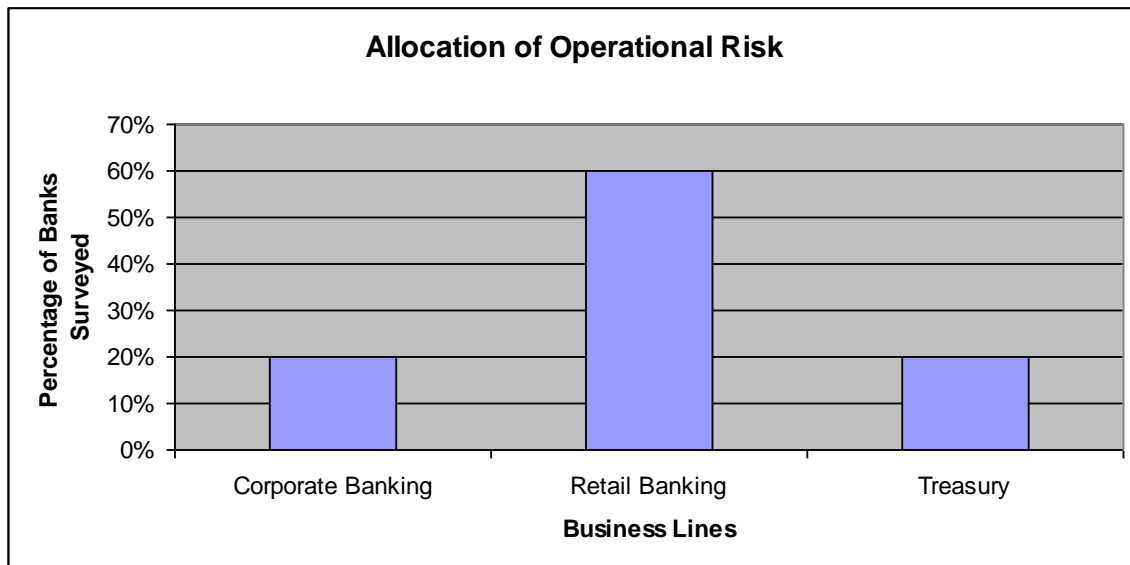


## Business lines

An additional problem that business units face is in the allocation of operational risk to various business lines and units. Broadly classified there are three major business units in every bank and these are corporate, retail and treasury. Retail banking is known to be the highest revenue maker in any commercial bank worldwide and this is true for most banks in UAE. Treasury can also be a major business line where there are huge possibilities for operational risks to take place as there are massive transfer of funds and investment of the bank's money which sometimes can be done with a lot of speculation and unscrupulous trading by some traders.



The survey results show that 60% of the operational risk is allocated to retail banking. This is true as retail banking is the highest revenue maker for the bank and according to the standardized approach it will have the highest capital charge. This is also true because retail banking usually has the highest number of staff and comprises of many sub departments and has very wide range of operations. Thus the probability of having unplugged loopholes in the processes & systems increases with the scale of operations giving rise to probable Operational risk sources. The remaining charge for operational risk is shared between corporate and treasury business units.

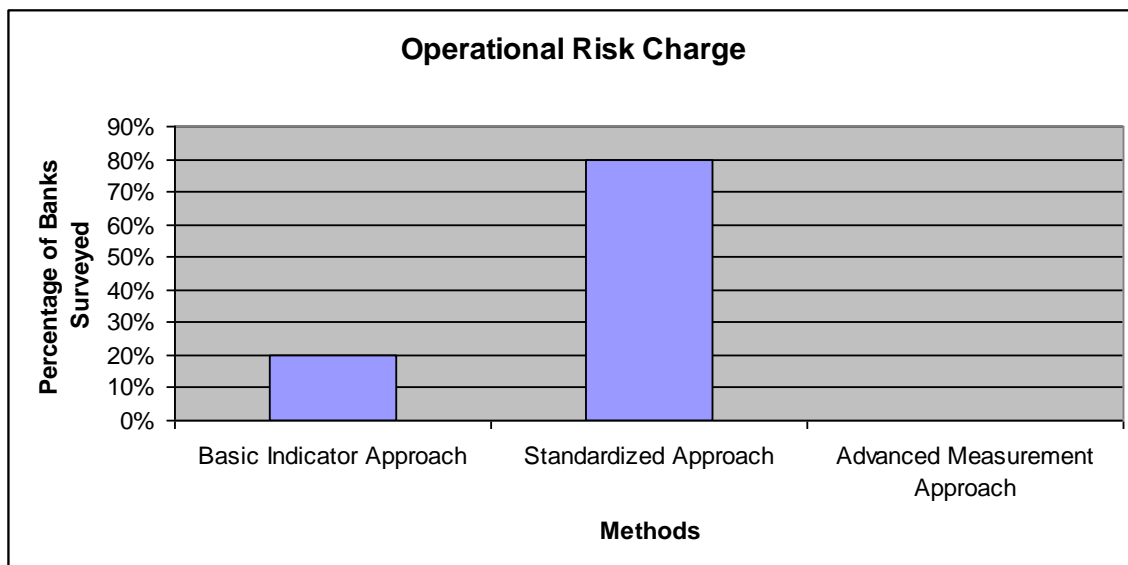


### Method for Operational Risk Charge

As discussed before, Basel II accord has given banks three choices of methods that can be employed in estimating the charge for operational risk. These methods are Standardized Approach, Basic Indicator Approach and Advanced Measurement Approach. The Central Bank of U.A.E has also given the same options to the banks and similar to Basel II accord, has reserved the use of AMA by those banks which show a high degree of

sophistication in their risk modeling systems. In case of Basic Indicator Approach banks should hold capital charge of up to 15% of average of the past three years annual positive gross income and for Standardized Approach banks should hold capital for operational risk on a % charge (business line beta) attributable to the gross income from eight business lines as given in Basel II accord.

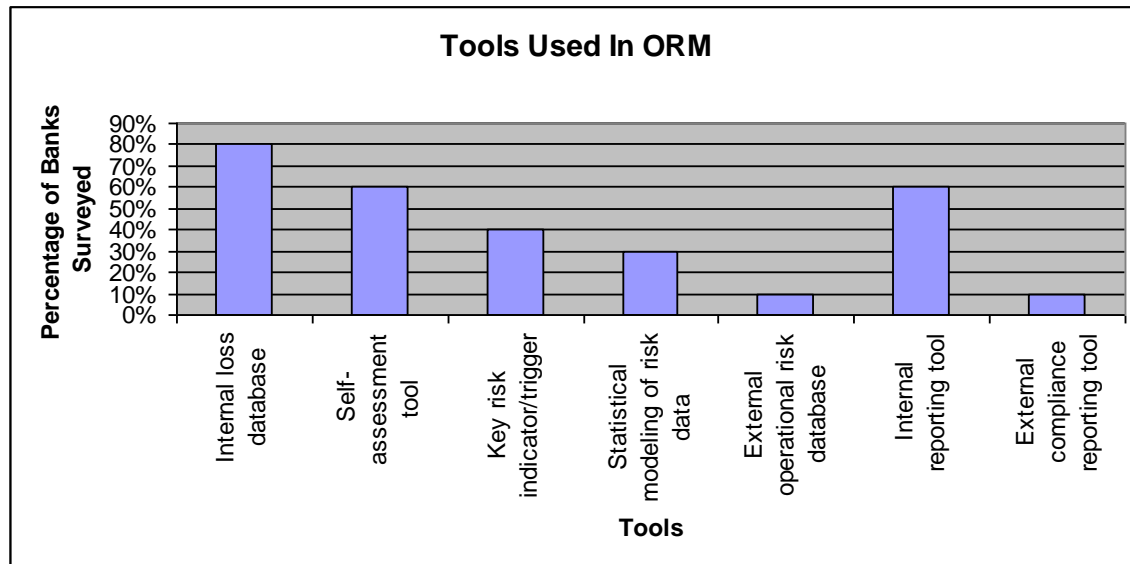
Out of the banks surveyed, 80% have adopted the Standardized Approach to calculate capital charge for operational risk. This is in consensus with the Central Bank of U.A.E, which has asked the banks to choose any of the 3 methods available for estimating the capital charge. Most banks progressed to this approach even before using the Basic Indicator Approach which shows the level of commitment and seriousness banks have towards operational risk. The rest of the banks use the Basic Indicator Approach. None of the banks have yet advanced to the Advanced Measurement Approach as AMA approach has lots of prerequisites regarding advanced systems, processes and detailed loss databases for a minimum period. The UAE banks still have to demonstrate to the Central Bank that they have the capability and sophisticated tools to use this approach



## **Tools**

The creation of framework of ORM relies on the use of a set of tools that have been developed to identify and assess operational loss as well as to evaluate, monitor, control and mitigate the operational risks. A bank uses a set of tools in combination with each other to get the maximum benefits of reliable information which can be studied to prevent further losses. The tools used are mainly self assessment, key risk indicators or triggers and internal and external loss data. Self assessments are used in identification of risk and development of control mechanisms to prevent such risks. Loss data is an important tool and every bank has its own internal loss data which helps in analyzing causes of errors made in the past and provides information to take remedial actions.

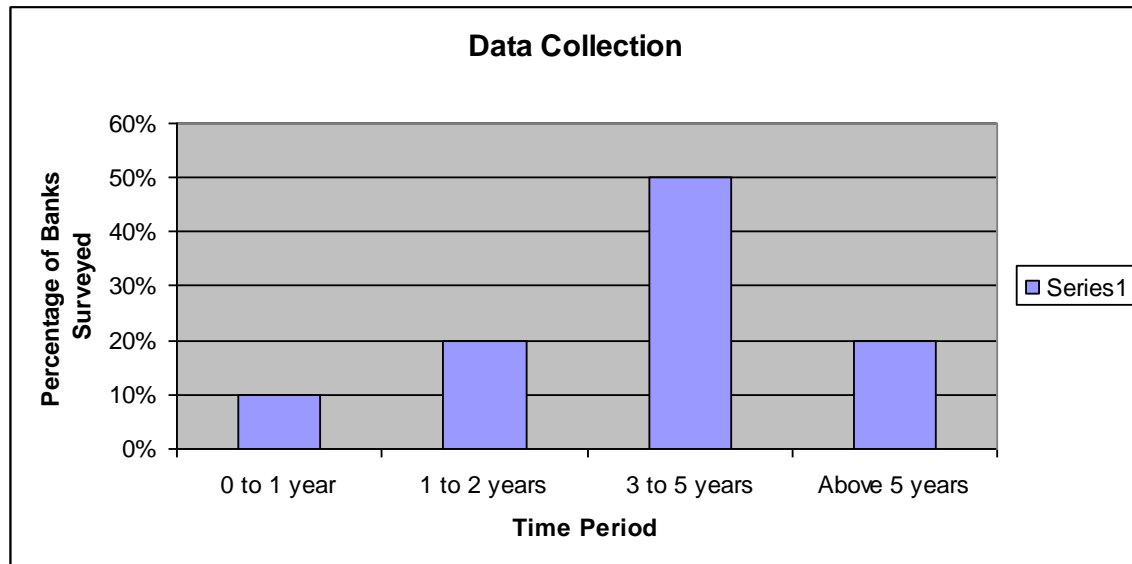
The UAE banks also use various sets of methods and tools to calculate operational risk. The most commonly used tool is the internal loss database which has been used by almost 80% of the banks. The other commonly used tools are the self assessment tool and the internal reporting tool. All these tools are used in a combination with each other. The survey also showed that each bank used at least 4 tools out of the given 7, which is a very good ratio. The other tools such as key risk trigger and external database are also growing in importance as these tools are sophisticated in nature and banks would eventually need to use these to show that they can use the AMA approach for capital charge calculation in future.



## Collection of Data

As stated earlier the accuracy of data plays an important role in modeling a competent operational risk management programme. The number of years of data collected also adds to the quality of data as banks are able to study a huge range of scenarios over different business and economic cycles which gives the banks a very comprehensive knowledge about the past.

As per the survey, 50% of the banks said that they have managed to collect data for the last 3 to 5 years as part of their internal loss data. Internal loss data as stated before is used by almost all the banks as a tool to estimate operational risk. Hence the number of years of data collected is quite satisfactory considering that operational risk is still a relatively new concept as compared to the other risks. Another 20% of the banks have data for more than 5 years which is very commendable as these banks would be able to study loss scenarios and figures from a huge range of data. The remaining banks are a little behind in terms of the data collected as they have been able to collect data extending to a period of 2 years.

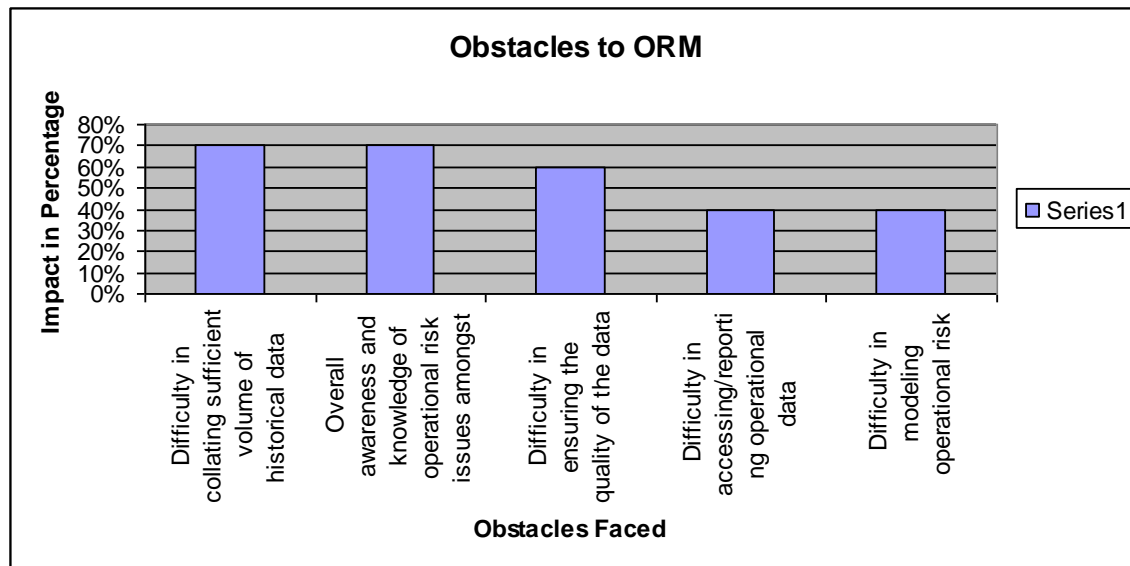


### Obstacles to successful ORM

Efficient system of ORM requires facing a number of challenges and overcoming these obstacles. The main obstacles of ORM relate to collection of data as most of the banks are still struggling with the non comprehensive data that these banks have. Reliability and accuracy of data is of up most importance as even the most sophisticated tools would most likely miss the real dangers if the data provided were not accurate and feasible. There is also disagreement on the best practice from regulators but banks need to realize that regulatory practice is not the only solution to an efficient ORM, but working with the right kind of people and having the right kind of data can actually work towards establishment of a near perfect operational risk management system.

As mentioned earlier, most of the U.A.E banks also face the same problem of difficulty in collating historical data. This problem is faced by 70% of the banks surveyed. This could also be reason that no bank has yet become eligible to use the AMA as risk modeling tools can only become advanced and sophisticated once they have been based on reliable and comprehensive set of data. 70% of the banks surveyed also face the hurdle of lack of

awareness amongst the staff regarding operational risk. This obstacle is faced by most of the banks all over the world as there is still dearth of staff qualified in operational risk management. The other obstacles also relate to reliability of data, banks are also faced with the problem of modeling operational risk as it is still a vague concept.

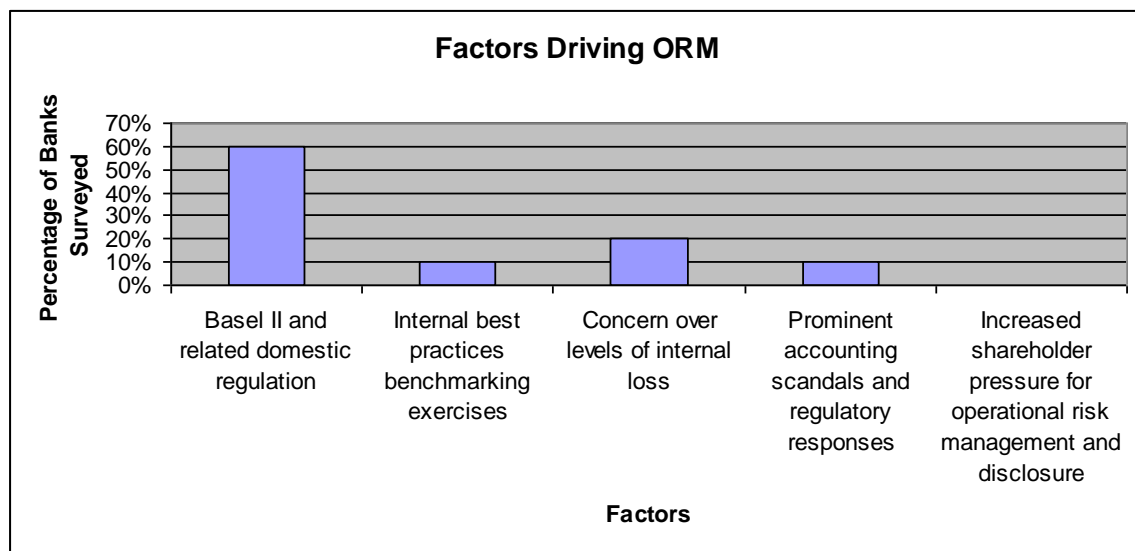


### Factors driving ORM Programmes

Every financial institution is concerned about risks that may adversely affect the business and functioning of the organization and hence would like to take necessary preventive actions. Operational risk is one such force which could ruin the stability of the institution and hence almost all banks have set up a unit which deals with control & mitigation of operational risk. The main factors driving ORM have been reduction of losses which in turn lead to stability of the institution, the regulatory pressure that has made ORM programmes mandatory for all banks and also recognition of scandals that have been caused due to operational risk.

The survey shows that Basel II implementation is an important factor in driving ORM programme as 60% of the banks felt that. This is true for most banks across the world as

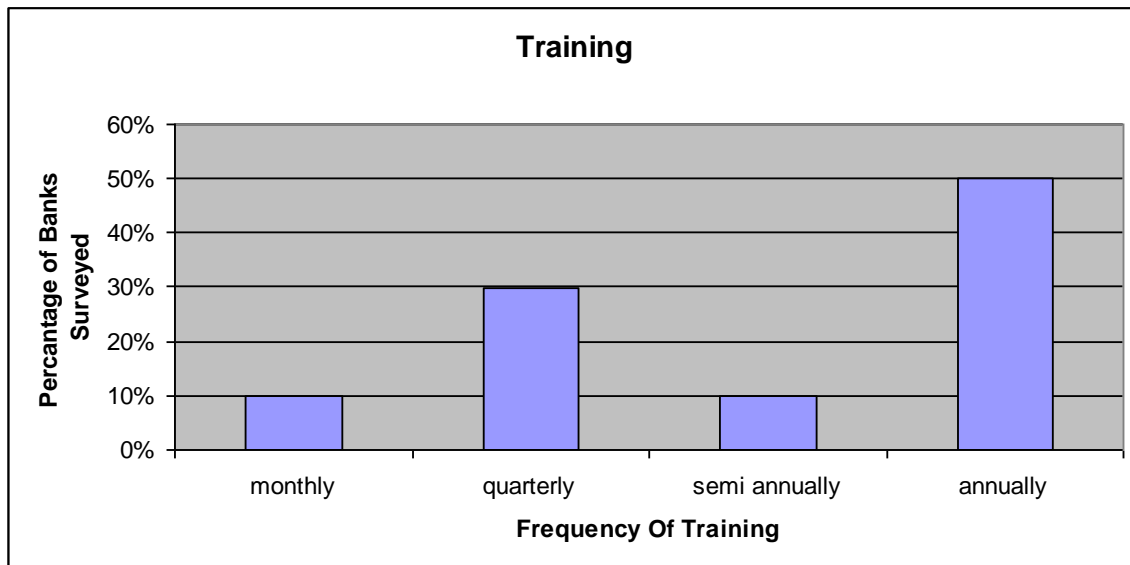
Basel II accord clearly and strongly advocates operational risk management to be part of every bank that is functioning. But regulatory reason is not the only factor behind having ORM function as 20% of the banks felt that concern over losses was also responsible in developing an efficient operational risk management programme. The other factors driving ORM are internal best practices and prominent scandals relating to operational risk.



### **Incentive and training for the staff**

Operational risk in recent times has gained immense importance in the banking industry, yet the banks are not very well equipped with personnel who have the skills and competency to work in this field. Hence it becomes more important for the organization to provide training to the staff on regular basis about day to day transactions that may lead to bigger adverse repercussions. Also an incentive programme for the staff who initiate or volunteer some kind of schemes or processes to avoid future risks, will also motivate the staff and provide them with encouragement to dwell deeper into operational risk mitigation ideas.

50% of the banks surveyed said that they have training in operational risk for staff annually. While 30% said that training is conducted quarterly and 10% said that it is conducted semi annually. Only 10% of the banks said that they provide training to staff monthly on operational risk. UAE banking industry is still in the learning phase of operational risk as compared to the advanced countries and in years to come training on operational risk will definitely become more frequent. Even regarding incentives only 10% of the banks surveyed said they provide incentives to staff to encourage them to come with processes and methods to reduce operational risk. This feature will also see an increase in the future as banks become more proactive regarding operational risk.



### Basel II's Operational Risk and UAE Banks

The majority of respondents of the survey felt that UAE Central Bank's initiative towards implementation of Basel II has been commendable and the banks are satisfied with the Central Bank's recognition of Basel II accord. But the major initiative still lies with the bank in having robust processes, systems and a well aware staff force.



The Basic indicator approach in Basel II accord is a primitive method of calculating operational risk capital charge and doesn't have any prerequisites. It just provides the capital charge based on the size of operations of the bank. UAE Central Bank encourages the banks to move towards more advanced approaches for OR capital calculation. Hence as seen in the survey, majority of the banks have accepted this challenge and have incorporated the Standardized Method of calculation of capital charge.

### **4.3 Conclusion**

This chapter was dedicated to analyzing the answers that were provided to the banks and in assessing the reasons behind choosing these answers. The answers helped in understanding what the banks feel about ORM. Also the answers helped in comparing the ORM process of the UAE banks to the process used in other banks in the advanced countries. The chapter provided comprehensive information regarding every question and helped in providing in depth knowledge about the ORM process of UAE banks.

## CHAPTER FIVE

## CONCLUSION

## **5.1 Introduction**

This is the concluding chapter of the research and sums up the entire findings of the research. The chapter assesses the ORM process of the banks which is based on the answers provided in the questionnaire. The chapter gives a description of the UAE banking industry in context to the ORM system and the future of ORM in these banks.

## **5.2 ORM in UAE Banks**

Though it has been a few years, since 2006, when the UAE Central Bank formally agreed on the implementation of Basel II among the banks, the banks have made great progress in this field. Banks only had to charge capital for operational risk since 2008. Operational risk is very new concept for UAE banks, as the banks here are not advanced to the level of western counterparts, and operational risk scandals are virtually unheard of in this region. Yet the banks have taken their responsibility seriously and have come up with sophisticated models to mitigate operational risk.

It is not denying that the main factor driving ORM in UAE is also Basel II requirement and this is also the case in many other banking industries across the globe. But it can also be said with certainty that banks would continue with this programme even if Basel was to withdraw from it, as they consciously believe that operational risk is a key concern for all the banks, and to tackle this effectively would provide great amount of stability and profitability to the bank in the years to come.

It is not easy to implement ORM programme in the organization and this will be a big challenge to all the banks. As seen in the survey, banks do face a lot of hurdles in implementation of ORM. Since operational risk is not so popular here, it is difficult to even get required skilled staff for the same and training on such programmes can also

pose to be a challenge. UAE banking industry is a relatively new and growing, so to find and compile historical data for modeling of ORM would also be cumbersome. Yet banks do believe that efficient implementation would go a long way in improving quality of services which eventually will lead to a greater protection and satisfaction to the shareholders.

The other encouraging finding has been that ORM unit is present in all the banks surveyed and 60% of the banks have had this unit or a formal committee for more than 3 years. This shows that banks made themselves ready to implement Basel II's operational risk, long before it was made compulsory by the Central Bank to be implemented in 2008. This also points to the fact that banks are very concerned about operational risk and have taken up the responsibility among them to create an effective control environment to reduce operational risk.

All the banks use a variety of modeling tools in combination with each other. These tools are mainly loss database, self assessment tool and key risk indicator trigger. These tools are very helpful in providing information regarding operational risk which helps in quantifying capital. These tools also help in day to day functioning as they provide useful information, through statistical methods, which helps in determining reasons behind losses incurred.

Reporting is also an important aspect which helps in building a conducive control environment. All banks undertake regular reporting to the BOD and the higher management regarding operational risk status. This helps in interaction from the top to the bottom and helps keep everyone informed regarding any potential threats or risks associated with operational risks.

Majority of the banks are currently using the Standardized Approach for calculating capital charge for operational risk. Banks still have a far way to go in developing modern and sophisticated tools which will enable them to use the Advanced Measurement Approach. The qualification prerequisites for AMA approach are similar to the

standardized approach but in a much more rigorous way. The data requirements, systems, policies and procedures and the remaining framework needs much more sophistication than standardized approach. The AMA implementation is a one way road i.e once it has been implemented in the bank, the bank can not revert back to any other approach. Even in the years to come we can expect only few large banks in the UAE of adapting this approach as the cost of implementation poses a hurdle for the smaller banks in the region

This survey attempted to focus on the ORM framework in UAE banks. The UAE banks, led by the Central Bank are on the right track of building an efficient management system for operational risk. In the years to come, the ORM system will gain more sophistication and with right leadership and guidance, the banks will be able to develop systems and processes similar to those in the advanced countries.

### **5.3 Conclusion**

This research was aimed at studying the Operational Risk Management of the UAE banks which it did by questionnaire based survey. The research also outlined the definition of operational risk as per Basel Accord and the importance of it in the banking sector. There was also reference to the repercussions of ignoring operational risk and consequences faced by various banks around the worldwide. Overall the aim of the research was to highlight the need for operational risk management and the steps taken by the UAE banks in this regard and this has been shown in the research.

# Appendix A

## Questionnaire

1. How would you describe your bank's Operational Risk framework?
  - a. A centralized operational risk committee/group focused on regulatory compliance
  - b. Operational risk handled by the audit/compliance departments
  - c. Operational risk handled at the business unit level with no centralized committee/group
  - d. No operational risk framework is in place at this time
  - e. A centralized operational risk committee/group focused on setting policy for the business units
  - f. A core operational risk committee/group supplemented by dedicated operational risk managers at the business unit level
  - g. A core operational risk committee/group supplemented by managers who focus on operational risk part time at the business unit level.

2. Does your bank have a separate unit set up only for the purpose of Operational Risk Management (ORM)?

Yes/No

3. How often is the report on ORM discussed with the senior management or Board of Directors?
  - a. Weekly
  - b. Monthly
  - c. Quarterly
  - d. Semi annually

4. What is the maturity of ORM in your bank?

- a. More than 5 years
- b. 3 to five years
- c. 2 to 3 years
- d. Between 1 and 2 years
- e. Less than 12 months.
- f. Does not currently have such a programme

5. Rate the following benefits of ORM in the level of their importance. Use a scale of 1-5, where 1 is the most important.

- a. Greater level of accountability
- b. Protection against loss of reputation
- c. Improved business and performance management
- d. Optimized allocation of economic capital
- e. Reduction of operational losses

6. Rate the following risks in terms of importance to your bank. Use a scale of 1-4, where 1 is the most important.

- a. Risk in execution, delivery and process
- b. External fraud
- c. Internal fraud
- d. Business disruptions and system failure

7. Which of the following business line has the maximum allocation of operational risk?

- a. Corporate Banking
- b. Retail Banking
- c. Treasury

8. Which of the following methods is used to calculate the capital charge for Operational Risk?

- a. Basic Indicator Approach
- b. Standardized Approach
- c. Advanced Measurement Approach

9. Which of the following Operational Risk tools have been implemented in your bank?

You can choose more than 1

- a. Internal loss database
- b. Self- assessment tool
- c. Key risk indicator/trigger
- d. Statistical modeling of risk data
- e. External operational risk database
- f. Internal reporting tool
- g. External compliance reporting tool

10. How many years of data have the banks been able to collect for the modeling of ORM programmes?

- a. 0 to 1 year
- b. 1 to 2 years
- c. 3 to 5 years
- d. Above 5 years

11. Rate the following obstacles for successful implementation of ORM system in the level of their importance. Use a scale of 1-12, where 1 is the most important.

- a. Difficulty in integrating internal and external loss data
- b. Access to operational risk expertise/talent



- c. Difficulty in accessing/reporting operational data
- d. System integration issues
- e. Difficulty in mixing qualitative and quantitative information
- f. Inadequate management understanding
- g. Lack of clarity and best practice from regulators/professional bodies
- h. Difficulty in modeling operational risk
- i. Cost and time of implementation
- j. Difficulty in ensuring the quality of the data
- k. Overall awareness and knowledge of operational risk issues among general staff
- l. Difficulty in collating sufficient volume of historical data

12. Rate the following factors with their level of importance in development of Operational Risk Programmes. Use a scale of 1-5, where 1 is the most important.

- a. Basel II and related domestic regulation
- b. Internal best practices benchmarking exercises
- c. Concern over levels of internal loss
- d. Prominent accounting scandals and regulatory responses
- e. Increased shareholder pressure for operational risk management and disclosure

13. Is there any remuneration or incentive structure for the employees which rewards the employees for their contribution to operational risk management techniques at their business unit level?

Yes/No

14. How often are the staffs from various departments given training on operational risk management by the risk department of the bank?

- a. monthly
- b. quarterly

- c. semi annually
- d. annually

15. How would you rate the level of Basel II implementation regarding Operational Risk in U.A.E Banks?

- a. Satisfactory
- b. Good
- c. Still requires great amount of work in this area

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