

Operational Risk Management in Banking Sector: A Literature Based Analysis and further Scope for Research

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Abstract: Operational risk summarizes the risks a company undertakes when it attempts to operate within a given field or industry. Operational risk is the risk not inherent in financial, systematic or market-wide risk. It is the risk remaining after determining financing and systematic risk, and includes risks resulting from breakdowns in internal procedures, people and systems. An attempt has been made through this doctoral research to understand and analyse the Board and senior management oversight on risk management in general, Assessment of operational risk factors (loss events) and their effect on bank's entire operations, Operational risk factors related to loss events based on their significance level, Operational risk factors related to loss events based on personal experience of staff's involved in ORM practices, Assessment of contributory factors of operational risk, Policy and Procedural Approval of Operational and Opinion about Overall Operational Risk Management Policies followed by the select banks as the above mentioned areas were the identified research gaps after thorough analysis of review of literature available and opinion of the researchers and senior professionals in the field of banking sector from the Indian context. Every research has its own limitation and all the areas cannot be analysed and hence the above areas have been touched through the scholar's doctoral research.

Key Words: Indian Banks, Operational Risk Management and Management.

1. INTRODUCTION:

The term Operational Risk Management (ORM) is defined as a continual cyclic process which includes risk assessment, risk decision making, and implementation of risk controls, which results in acceptance, mitigation, or avoidance of risk. ORM is the oversight of operational risk, including the risk of loss resulting from inadequate or failed internal processes and systems; human factors; or external events. The U.S. Department of Defense summarizes the principles of ORM as Accept risk when benefits outweigh the cost and accept no unnecessary risk. It also states to Anticipate and manage risk by planning. And Make risk decisions at the right level at the right time.

2.A BRIEF HISTORY OF OPERATIONAL RISK MANAGEMENT:

Humans have been managing risk ever since they were capable of coherent thought weighing up the risks of attacking large animals against the reward of tasty food; investing in the planting of crops for the reward of the harvest; sacrificing to the gods in expectation of reward in the afterlife. Taking the opportunity out of risk and taking the risk out of opportunity is natural. However, making that process explicit, systematic and logical – risk management – only really began with the coming of probability mathematics. Since then areas and industries lending themselves to quantitative analysis have devised increasingly sophisticated mathematics and methodologies to determine the likelihood, impact and exposure to risks. Where data is available the results have been largely successful, but by definition the outcome of risk management is uncertain¹. Where relevant data is incomplete or unable to be collated into useful information, judgment is involved. The decision-maker has to form an opinion about the situation and evaluate the costs and benefits of various action or inaction. While there has been steady progress in areas such as environmental care, various events around the world have accelerated the use of a systematic approach to the management of potential future events. In the United States the loss of the Challenger space vehicle and collapse of thrifts had an impact; in New Zealand it was the collapse of the scenic Cave Creek viewing platform.

3. KEY FEATURES OF CURRENT OPERATIONAL RISK MANAGEMENT PRACTICE:

Complexity: The rate of change in technology, relative competence and environment makes it too expensive and cumbersome to quantify all relevant variables to any great depth. Operational risk management tends to use only simplistic mathematical modeling, since assigning more detailed values quickly becomes arbitrary and the results misleading through unsubstantiated pretensions of accuracy. For example, a car manufacturer could compare precise monetary values on potential legal claims if it continues to install petrol tanks knowing that they are likely to explode in an accident, against costs to retool production, yet discount a vague figure for loss of reputation, which could eventually be catastrophic.

Judgment: Due to incomplete and imprecise data, the screens that filter information into the knowledge used to make decisions inevitably skew interpretations to fit the organizational model. An organization that is driven by technocrats to making sound ecological decisions for the disposal of obsolete plant could be badly wrong-footed if it ignores an emotive campaign waged by ecological activists. For this reason, the filters need to be made explicit and recognized as such. Organizational custom and practice, the ‘tone at the top’ and ethical norms will shape interpretation of the environment and potential events.

4. RISK MEASUREMENT AND MONITORING

DEFINITION OF OPERATIONAL RISK:

At present, there is no agreed upon universal definition of operational risk. Many banks have defined operational risk as any risk not categorized as market or credit risk and some have defined it as the risk of loss arising from various types of human or technical error. Many respondent banks associate operational risk with settlement or payments risk and business interruption, administrative and legal risks. Several types of events (settlement, collateral and netting risks) are seen by some banks as not necessarily classifiable as operational risk and may contain elements of more than one risk. All banks see some form of link between credit, market and operational risk. In particular, an operational problem with a business transaction (for example, a settlement fail) could create market or credit risk. While most banks view technology risk as a type of operational risk, some banks view it as a separate risk category with its own discrete risk factors. The majority of banks associate operational risk with all business lines, including infrastructure, although the mix of risks and their relative magnitude may vary considerably across businesses. Six respondent banks have targeted operational risk as most important in business lines with high volume, high turnover (transactions/time), high degree of structural change, and/or complex support systems. Operational risk is seen to have a high potential impact in business lines with those characteristics, especially if the businesses also have low margins, as occurs in certain transaction processing and payments-system related activities. Operational risk in trading activities was seen by several banks as high. A few banks stressed that operational risk was not limited to traditional “back office” activities, but encompassed the front office and virtually any aspect of the business process in banks.

MEASUREMENT

Most banks that are considering measuring operational risk are at a very early stage, with only a few having formal measurement systems and several others actively considering how to measure operational risk. The existing methodologies are relatively simple and experimental, although a few banks seem to have made considerable progress in developing more advanced techniques for allocating capital with regard to operational risk.

RISK MONITORING

More banks have some form of monitoring system for operational risk than have formal operational risk measures. Many banks interviewed monitor operational performance measures such as volume, turnover, settlement fails, delays and errors. Several banks monitor operational losses directly, with an analysis of each occurrence and a description of the nature and causes of the loss provided to senior managers or the board of directors. Many banks interviewed are in the process of reviewing their current risk methodologies to accommodate improved measurement and reporting of operational risk and the development of an on-line monitoring system. The time lines for such efforts vary widely, with some banks currently implementing segments of new systems and other banks still in the planning stages. A significant number of other banks interviewed are not contemplating changes to their management information systems because the bank believes its current methodology serves it well. One bank has recently implemented a new

risk policy framework but stated that it was too soon to assess its effectiveness. Contrary to most respondents, one bank stated that it was satisfied with its current information systems for capturing and reporting operational risk.

5. CONTROL OF OPERATIONAL RISK:

A variety of techniques is used to control or mitigate operational risk. As Discussed below, internal controls and the internal audit process are seen by virtually all banks as the primary means to control operational risk. Banks touched on a variety of other possibilities. A few banks have established some form of operational risk limits, usually based on their measures of operational risk, or other exception reporting mechanisms to highlight potential problems.

6. OBJECTIVES OF THE PRESENT STUDY:

1. To study the growth and development of Indian banking sector and the need for operation risk management
2. To study the various types of risks that the banks are exposed to in different sectors of banking
3. To study the causes, extent and implications Operational Risks in selected private and public sector banks
4. To examine the methods of management and mitigation of operational risks in selected private and public sector banks
5. To recommend techniques to be employed to manage and mitigate the operational risks in selected private and public sector banks

7. REVIEW OF LITERATURE:

INTRODUCTION

Reviewing the literature is worth the effort: it will give you a fascinating, in-depth insight into the research topic and, even better, a great literature review will vastly improve the chances of getting a great mark. The review of the existing literature shows that many number of research work has been carried out in India and elsewhere for analyzing operational risk management of banks.

PROFITABILITY:

The Banking Commission (1972) chaired by R.G. Saraiya, recommended various management tools including the introduction of planning and budgetary control systems in order to increase the operational efficiency of the banking sector. The committee reviewed bank operating methods and procedures and made recommendations for improving and modernising operating methods and procedures, particularly relating to customer service, credit procedures and internal control systems. It also studied the issue of profitability and suggested ways to improve it. Moreover, it also examined other important aspects of banking such as information systems, management development, training and employee appraisal, etc., which influence the productivity of banks and banking system. It suggested the use of certain ratios for measurement of operational efficiency of banks.

Joagvin (1974) carried out an empirical study on 'Profitability of Banks' and reported that the rediscount rate is positively related to profitability and the relationship between profitability and rate of growth is not consistent. The study also showed that there is a positive relationship between return on owner's equity and size for nationalized banks.

Mathura (1977) conducted a case study of the State Bank of India and reported that the State Bank of India, in its two decades of service has accelerated the growth of Indian economy in two significant ways: (i) by pursuing the policy of vigorous branch expansion in general and its rural orientation in particular, and (ii) by playing a leading role in introducing bank credit facility to the new fields of the priority sectors of the Indian economy. The study also revealed that the bank had played a leading role in developing the backward regions of the country.

Sapp (1978) investigated the relationship between long-range planning and bank performance. The purpose of this study was to examine the extent of long-range planning by commercial banks and to study the relationship between such planning efforts and bank performance.

Shah (1978) in his article “Bank Profitability: The Real Issues”, concluded that profitability is not expected to be improved merely by increasing the margin between lending and borrowing rates. On the contrary, the findings suggested any increase in income may be observed by latent efficiencies in cost structure. Further, the spread between interest earned and interest paid is declining, not because interest margin has been squeezed but because: (i) staffing and working patterns are inefficient, (ii) funds and investment management is poor, (iii) credit is not supervised, and (iv) forms and procedures are complex and wasteful.

Ganesh (1979) reported in his paper on the system of profit monitoring in banks emphasized that the effectiveness of monitoring system would depend upon profit plan, identification of profit centers, setting up of standards for comparison and a proper management information system. The study highlighted that the working funds as a measure of comparing profitability at the branch level is inadequate instead the use of total business will be more suitable. Finally, the study suggested a monthly profitability monitoring report at branch level to central office that would enable the central office to monitor the branches effectively.

Joshi (1986) analyzed the trend of gross and net profits of all scheduled commercial banks. The study found out that there had been lowering yield rate and rising cost rate year by year which contributed a lot to the declining trend in profitability. He also suggested that declining demand from the corporate sector for bank funds had serious implications for bank profitability.

Halkos and Salamouris (2004) by applying the data envelopment methodology studied the efficiency of Greek banks for the period 1997-1999 and reported a strong positive correlation between size and efficiency. The empirical results showed that the Greek banking system operates at high overall efficiency levels, and that larger banks are more efficient than smaller banks.

Bodla and Verma (2006) studied the key determinants of profitability of public sector banks in India by using a stepwise multivariate analysis for the period from 1991-92 to 2003-04. The study reported that non-interest income, operating expenses, provisions and contingencies and spread have significant influence on the profitability of the public sector banks. The study also found a negative correlation between profitability and the non-performing assets as well as provisions and contingencies.

CREDIT RISK:

Shrives and Dahl (1992) while studying the effectiveness of capital adequacy regulations and the relationship between increased banking capital and risk found out that the new capital regulation (Basel I) has been effective in increasing capital ratios without substantially shifting their portfolio and exposure towards riskier assets.

Berger and De Young (1997) using data on US banks for the period 1985-1994, found that decreases in cost efficiency are related to increases in non-performing loans, suggesting that high levels of problem loans (Non Performing Loans/Assets) cause banks to increase spending on monitoring. Studies have shown that reduction in the NPA level contributed to reduction in risk concentration.

Sarkaretal, (1998) while studying the impact of reforms and liberalisation on the Indian banking sector highlighted how the banking sector had undergone significant effective operational autonomy. The study reported how the Indian banks have taken advantage of the reforms to compete with each other, and learn from each other to be able to invade each other's market niches.

Gray (1998) studied the credit risks in the Australian banking sector and noted that the credit risk measurement was at the rudimentary level up to the early 1990s and also noted the development of better assessment models for credit risk measurement. The study highlighted that the credit risk plays a critical role in the banking sector role because the loans are by far the largest asset item of a bank, which generally account for half to three-quarters of the total value of all bank assets.

Caprio and Honagan (1999) in their article, “Restoring Banking Stability: Beyond Supervised Capital Requirements” explained how the emerging economies have been prone to financial sector crises, reflecting marked information asymmetries and political interference, as well as the substantial volatility in underlying economic conditions, and the vulnerability of banking sector when structural economic changes create a new and uncharted operating environment. The study highlighted how the standard regulatory paradigm relies mainly on supervised capital adequacy and suggested that this may not be enough. They concluded that there is need for other measures to improve the incentive structure for bankers, regulators, and other market participants which could effectively increase the number of concerned, skilled and watchful eyes.

Bratanovic and Greuning (2000) explained the usefulness of certain ratios to evaluate the credit risk associated with the banking sector. They also highlighted the usefulness of such ratios that can be derived from banks specific variables which are readily available and how banks can use such ratios internally to avert any catastrophic failures.

Anbar (2006) while studying the credit risk management in the Turkish banking sector stated that the Turkish banks paid more attention to credit risk but management practice was not at a desired level. Only 35 percent of the banks surveyed used quantitative methods for risk measurement. The study also noted that many Turkish banks are not ready for the Basel II accord implementation in 2008.

Aman and Zaman (2012) studied the credit risk performance of private and state owned banks in Pakistan and found that the private sector banks were performing better with regards to the credit risk compared to the state owned banks. The study by analyzing data for a fifteen year period from 1990 to 2005 reported that the private sector banks were efficient in managing their credit risk and suggested that the public sector banks need to improve their efficiency of credit risk management.

Ali and Daly (2014) investigated the interaction between the cyclical implications of loan defaults (credit risk) in an economy and the capital stock of a bank. The approach used a macroeconomic credit model that through a comparative analysis of two countries, namely Australia (a relatively immune economy from the recent crisis) and the United States of America (the worst affected economy from the recent crisis). The results indicated that the same set of macroeconomic variables display different default rates for the two counties. Additionally the study finds that compared to Australia, the US economy is much more susceptible to adverse macroeconomic shocks.

OPERATIONAL RISK MANAGEMENT:

Oxelheim and Wihlborg (1997) define risk as a measure of the timing and magnitude of unanticipated changes, which is evaluated relative to expected changes in variables. These anticipated changes are measured by the expected change, which is normally a result of forecasting.

Tchankova (2002) stated that risk is an inherent part of business and public life. Dynamic market relations continuously increase the uncertainty of the environment where business and public organizations work. There are various types of risks suggested by different authors (Fatemi and Glaum 2000, Croupy, Galai and Mark 2001, and Romero 2003), a summary of which is presented in Table

Credit Risk	Risk arising from inability or unwillingness of a counterparty to honour its credit obligation in accordance with agreed terms.
Market Risk	Result of adverse changes in interest rates, foreign

	currency exchange rates, equity prices and other relevant market rates, prices and volatilities.
Liquidity Risk and Funding Risk	Risk to the Bank or one of its business units being unable to fund assets or meet obligations at a reasonable cost or, in case of extreme market disruptions, at any price.
Reputation Risk	Reputation risk occurs when negative publicity regarding a bank's business practices leads to a loss of revenue or litigation. It results in the decline of a bank's market or service image.
Operational Risk	The risk of direct or indirect loss to a bank resulting from inadequate or failed internal process, people and systems or external events.
Commodity risk	The risk of changes in the price of commodities.
Interest Rate Risk	The risk arising from possible interest rate differentials in positions mismatch embedded in the balance sheet of the bank.
Compliance Risk	The risk of legal or regulatory sanctions, financial loss that a bank may suffer as a result of its failure to comply with all applicable laws, regulations, codes of conduct and standards of good practices.

Pyle (1997), risk management is the process by which managers satisfy these needs by indentifying key risks, obtaining consistency, understandable, operational risk measures, choosing which risks to reduce, which to increase and by what means, and establishing procedures to monitor resulting risk positions.

Carey (2001), effective risk management is an efficient and cost effective management technique, which can reduce incidents, claims, wastages and losses. It can also enhance innovation by enabling considered risk taking.

OPERATIONAL RISK MANAGEMENT IN BANKING INDUSTRY:

Gray (1998) studied the credit risks in the Australian banking sector and noted that the credit risk measurement was at the rudimentary level up to the early 1990s and also noted the development of better assessment models for credit risk measurement. The study highlighted that the credit risk plays a critical role in the banking sector role because the loans are by far the largest asset item of a bank, which generally account for half to three-quarters of the total value of all bank assets.

Calomiris and Herring (2002) stated that firms in general, respond to risks in three different ways: "lay off" the risk, try to reduce the risk; and retain the risk and deal with it by actively managing it. The exact approach a bank adopts for dealing with its risks depends on both the nature of risk and the strategy of the individual organization.

Lopez (2002), when he stated that there was so far no clearly established single way or approach to manage operational risk and that each bank would establish and develop its own method.

Davies and Haubenstock (2002) mentioned that good operational risk management needed the support and involvement of senior management who could decide that operational risk was important and deserved attention and the most important point was to allocate resources accordingly.

BANK REGULATION ON OPERATIONAL RISK:

Traditionally, banks have focused largely on credit risk management and market risk management, with only limited resources being allocated to operational risk management. The fact that operational losses have increased markedly over recent years has prompted regulators and banks to take a closer look at operational risk management.

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RISK FINANCING AND OPERATIONAL RISK MANAGEMENT

Banks have various options to dealing with operational risk. They can avoid the risk, retain the risk by developing controls to reduce the frequency and severity of the losses or they can choose to absorb these losses through its earnings. Other financing options available to them are:

INSURANCE

Insurance in recent times has been seen as a valuable instrument through which banks can transfer their operational risk activities. It forces banks to analyze their Operational Risk and to differentiate between its impact and frequency. Insurance companies offer banks specialized products that protect them against direct financial loss (loss of money as well as assets) caused by any act of fraud on the part of any employee. Directors' and officers' liability coverage can protect against losses incurred by directors and officers for alleged wrongful acts and by the firm for money it paid to directors and officers to indemnify them for damages. Property insurance can protect firms against losses from fire, theft, inclement weather, etc.

OUTSOURCING

Outsourcing business processes to specialized service providers is fast emerging as a tool for operational risk transfer and a common practice in the Banking industry today. Enormous competition and rapidly dwindling bottom lines have compelled banks to renew their focus on their cost strategy by outsourcing certain aspects of their business activities including information technology (e.g., applications development, programming etc), specific operations (e.g., some aspects of finance and accounting, back-office activities and processing etc), and contract functions (e.g., direct sales, front office activities etc). For effective risk transfer, the relationship with the outsourcing partner should be managed effectively through Service Level Agreements, which should clearly determine the rights, responsibilities and expectations of both the parties.

Bloom and Galloway (1999) stated that proactive operation could protect a firm from potential damage and could result in the protection of shareholder value, avoidance of regulatory censure or burden, the ability to render services without interruption, and the maintenance of a good reputation and public and investor confidence in the long run. Ultimately, the benefit of proactive operational risk management will lead to greater efficiencies and lower costs for lending money, hence enabling a firm to achieve competitive advantage (Fung, 2006).

Anna-Maria Kessler (2007) in his thesis A Systemic Approach Framework for Operational Risk attempts to describe the essential systems features of a complex real-world domain of operational risk (OR) in banking, by employing general systems theory (GST) as the guiding method.

Dr. Aleksandra brdar Turk (2008) study entitled "The Operational Risk Management Process: Implementation of an OR Management Model" opined that operational risk (OR) management has advanced to become an integral part of financial and other institutions. Overall risk management processes.

Agnes Koomsonthe (2011) conducted a study on the title "Operational Risk Management and competitive advantage in the Ghanaian banking industry" stated that Banking industry today is characterized by intense competition coupled with rapid changes in customer expectations, increasing regulatory requirements, technological innovation and mounting competition. Failures in processing activities as a result of human errors, fraud and system failures brings significant losses to banks and these losses are key sources of operational risk. Stringent corporate governance, regulatory standards and investor expectations are increasingly making operational risk management a focus for the banking industry.

8. RESEARCH GAP:

After a thorough scrutiny of the previous researches conducted, it can be concluded that many studies have been carried out on the risks associated with the commercial banks in India and other countries. Although there are various multi dimensional research studies conducted on the various financial aspects of banks there are hardly any study that attempts to understand and analyse the Board and senior management oversight on risk management in general, Assessment of operational risk factors (loss events) and their effect on bank's entire operations, Operational risk factors related to loss events based on their significance level, Operational risk factors related to loss events based on personal experience of staff's involved in ORM practices, Assessment of contributory factors of operational risk, Policy and Procedural Approval of Operational and Opinion about Overall Operational Risk Management Policies

followed by the select banks. And hence the researcher has identified the above areas as valuable research gaps and endeavours to address these research gaps through a through exploration with a help of adhering to a descriptive and exploratory research design.

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