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**The Effect of Operational Risk Management Practices on
the Financial Performance in Commercial Banks in
Tanzania**

Kerongo Maatwa Meshack and Rose Wairimu Mwaura



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^{1*} Kerongo Maatwa Meshack

^{1*}Post graduate student, University of Nairobi

^{2*} Rose Wairimu Mwaura

Abstract

Purpose: The purpose of the study was to determine the effect of operational risk management practices on the financial performance in commercial banks in Tanzania

Methodology: The research problem was studied by use of a descriptive research design. The population of the study consisted of all commercial banks in Tanzania. The study used the sample size of 34 commercial banks in Tanzania. Therefore all the commercial banks participated in equally. Questionnaires were the primary data collection tool in this study. The data gathered from the respondents shall be analyzed and presented using descriptive statistics.

Results: The study found that the three independent variables in the study credit risk, Insolvency risk and Operational efficiency influenced the financial performance for the period under study. Credit risk Insolvency risk and Operational efficiency influenced commercial banks financial performance for the period of study.

Unique contribution to theory, practice and policy: This study therefore recommends that the commercial banks should handle their operations appropriately as the changes in the factors like Insolvency and Credit risk bring about an effect on the profitability of commercial banks hence affecting their financial performance

Key words: *Operational risk, financial performance, credit risk, insolvency risk*

1.0 INTRODUCTION

1.1 Background of the Study

Commercial banks like other corporations are established so as to maximize their shareholder wealth. Wealth is the function of risk and return. In financial markets, as well as in many commercial activities if one wants to achieve higher rate of return on average, one often has to assume higher risk. Commercial banks are in the risk business. In the process of providing financial services, they assume various kinds of financial risks. The risks differ in their natures and occurrences pertaining to different business activities. That is to say that certain risk is particular in their natures that specifically affect the operations of banking industry (Young, 2012).

Likewise, risks associated with banking service differ by type of service rendered. Banks face a number of risks in order to conduct their business, and how well these risks are managed and understood is a key driver behind profitability, and how much capital a bank is required to hold. Some of the main risks faced by banks include credit risk, market risk and operational risk. Credit risk is the risk of loss of principal or loss of a financial reward stemming from the borrower's failure to repay a loan or meet contractual obligations. Market risk is the risk of losses arising from changes in value of the market risk factors (Kimei, 2007).

There are three common market risk factors to banks and these are liquidity, interest rates and foreign exchange rates. Operational risk refers to the financial loss to business as a consequence of conducting it in an improper or inadequate manner and may result from external factors. Operational Risk may tangibly manifest itself in the likes of business disruption, control failures, errors, misdeeds or external events.

The bank of International Settlement (BIS), the principal organization of central bank (based in Basel Switzerland) in the major economies of the world has defined operational risk as the risk of losses resulting from inadequate or failed internal processes, people and system or from external events. Operational risk can be divided from into those losses that are expected and those that are unexpected. Operational risk is not a new risk, but hard evidence suggests that this risk is significant and maybe growing, virtually every catastrophic financial institution loss that has taken place during the past 20 years Bloom & Galloway (199). Example of operation risk occurred in the past years; a bond trader of Daiwa Bank in New York had caused and hidden losses of USD 1.1 billion through non-compliant transactions and scam deals. Daiwa did not have any appreciable management controls or even the simplest internal control that could have immediately expose the fraudulent transactions. The bank become insolvent, eleven senior executives were ordered to pay damages as they failed to supervise staff (Jorion, 2001).

1.2 Research Problem

Financial disasters in banks and non-banking institutions and in governmental agencies point out need for risk management. Major bank failures have occurred due to unidentified risks within the banks. Many of these highly improbable events such as the terrorist attacks on September 11, unauthorized trading losses at Barings Bank, resulting in its collapse in 1995, and other rogue trading, have contributed to a growing focus on identification and measurement of operational risk. Banks generally operate in environments where risk changes often, hence the need for an efficient risk management process, categorized by risk type to be able to address the specific risk factors. A clear description of all the risk factors

will ensure the allocation of accountability and responsibility to deal with each factor. Such descriptions for operational risk still lacks as it seems that all the risk factors that cannot be address under credit, market and liquidity risk types are included in operational risk. This may lead to the situation where operational risk becomes a dumping ground for risk factors and may result in critical focus being neglected.

Therefore it seems as if operational risk management, as one of the latest management problem areas, is still treated as wild card. This present a problem regarding the acceptance and management of operational risk and the risk factors it comprises. This research is therefore necessary to determine the current status, conceptual issues and underlying factors of operational risk management in order to provide a comprehensive description of this risk category and to differentiate it from other risks in Tanzania's commercial banks environment. Also the study undertakes critical analysis of operational risk faced by commercial banks and strategies for managing this risk that the banks have adopted. The research questions in this proposal are what are the major sources and types of operational risk in commercial banks? And in which ways commercial banks in Tanzania adopt and manage their operational risks so that they will not cause failure?

1.3 Research Objectives

- i. To determine the operational risks management practices and financial performance in commercial banks in Tanzania.
- ii. To identify the sources of operational risks exposures among commercial banks in Tanzania

2.0 LITERATURE REVIEW

2.1 Theoretical Framework

2.2.1 Extreme Value Theory

According to Paul Embrechts (1999), Extreme value theory (EVA) is a branch of statistics dealing with the extreme deviations from the median of probability distributions. It seeks to asses from a given order sample of a given random variable, the probability of events that are more extreme than previously observed. The financial industry including banking and insurance is undergoing major changes. The reinsurance industry is increasingly exposed to catastrophic losses for which requested cover is only available. An increasing complexity for financial instruments calls for sophisticated risk management tool.

This theory expand the knowledge of operational risk management as it indicate the securitization of risk and alternative risk transfer highlight the convergence of finance and insurance at the product level. Extreme value theory plays an important methodological role within risk management for insurance, reinsurance and finance.

2.2.2 Regulation Innovation Theory

Scylla (1982) put forward the regulation innovation theory. They argued researching financial innovation from the perspective of economy development history. And they thought financial innovation connects with social regulation closely, and it is a regulation transformation which has mutual influence and is mutual causality with economic regulation. They thought that it is very difficult to have space of financial innovation in the planned economy with strict control and in the pure free-market economy, so any change leaded by regulation reform in financial system can be regarded as financial innovation.

The Omni-directional finance innovative activities can only appear in the market economy controlled by government. When government's intervention and the management have hindered the finance activities, there will be many kinds of financial innovation which intend to circumvent or get rid of government controls. In this theory which expanded the scope of operational risk management, government activity is also regards as the origin of financial innovation. But it regards regulation innovation as one part of financial innovation which put more concern in operational risk management in banks. Especially, it regards rules and regulations which are used to control as financial innovation.

2.2 Empirical Literature Review

Yusuf (2005) in a survey approach examined the operational risk management by commercial banks in Kenya. The study indicates that quantification of risks into various categories was widely practiced by Kenyan commercial banks, the research indicate that only sixteen (16) out of twenty two (22) banks surveyed had segregated risks into various categories and thus only few of these banks used various models to quantify risks. In additional the study notes that a Central Bank of Kenya survey of July 2005, published in the daily nation indicated that only seventeen (17) banks of the total banks registered in Kenya had set aside funds to cover against operations risk management activities and only ten (10) out of seventeen (17) has submitted adequate and consistent risk monitoring reports. In conclusion the study undertakes that in Kenya banks do not necessarily make an attempt to predict the degree of occurrence of risks.

Kamau, (2010) in a study of adaptation of risk management by commercial banks in Kenya, indicated that operational risk was very critical and it was 44% out of the other risk that occurred in commercial banks, and this is due to the high increase in the use of automated technology, lack of qualified staffs and lack of management supports in the organizations, and also the internal and external frauds.

Macha, (2010), in his study on operational risk management in the financial sectors in Tanzania found that 56 financial intermediaries, only 20 of them have insurance against operational risk. According to Bank of Tanzania it is very risk and possibility of the bank failure is very high if the bank will not secure its cash or properties by insuring them. The study showed that although there are a number of cash operation risks facing commercial banks, lack of integrity among the staff members and the nature of business that the banking organizations deal with are the major cash operation risks that face the commercial banks. The study further established that cash operation risk management practices are very critical business process, due to the nature of business that banks engage in. that explain why there has been a huge investment to put in place adequate risk management practices across the industry in an effort to secure the banks business activities. To a very great extent each bank has engaged in the use of regulators guidelines which provide the minimum threshold of practices that must be used by all banks in managing the cash operations risks.

Kwasi (2010) on his risk based assessment of Eco bank Ghana limited has revealed that, the bank had adequate risk management structure to ensure sound risk management of operational risks, which can be supported with the fact that existence of Strong risk culture in the bank as all staff are conscious about the risks inherent in their activities are always on the lookout to avoid or minimize the incidence of risk. This has been made possible through extensive regular education and training on risk issues in the bank coupled with the central role risk awareness play in the performance base and remuneration system.

Herring (2002) challenges the rationale for employing capital charge suggested by New Basel Capital Accord to mitigate operational risk. Operational risk unlike other risks is idiosyncratic, thereby involves less systemic implications. Tanase and Serbu (2010) suggest that banks with the help of technological advancements have been able to manage operational risk by offering innovative products like e-banking, which has been able to reduce a lot of their operational risk exposure by minimizing the human intervention in their overall process. Martin (2009) argues that the culture of an organization is critical to its success in managing operational risk. Operational risk according to the author has two causes, an act of God (flood, earthquake and windstorm) and a person. People, who are at the heart of the culture of an organization design and maintain processes and systems and cause operational risk events by either doing something they should not be doing or not doing something that they should be doing. He argues that the culture of an organization is critical to its success in managing operational risk.

Johnemark, (2012) in his study of modeling operational risk in Sweden, indicates that modeling operational risk seems very easy at first. Take a sample of data, fit a frequency distribution and a severity distribution and start simulating losses. And perhaps for certain cells with many data points it is relatively easy. But operational risk is such a wide concept and to develop a model that must include all types makes it really hard, especially when you have less data in a cell than you have fingers on your hands. And even if you have a lot of data, one single observation can have a huge impact on the outcome. Nevertheless, there are some techniques and methods that have proven to work well.

3.0 METHODOLOGY

The research problem was studied by use of a descriptive research design. The population of the study consisted of all commercial banks in Tanzania. The study used the sample size of 34 commercial banks in Tanzania. Therefore all the commercial banks participated in equally. Questionnaires were the primary data collection tool in this study. The data gathered from the respondents shall be analyzed and presented using descriptive statistics. The data collected was analyzed in order to determine the relationship between the variables. The dependent variable is efficiency/ competitive advantage, while the independent variables were the operational risk management practices. The results was tested to see the extent of relationship using the following linear regression equation model.

4.0 DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Descriptive statistics

Table 1: Descriptive statistics

	<i>ROA</i>	<i>CREDIT RISK</i>	<i>LQR</i>	<i>OPR</i>
Mean	0.263111	0.276806	0.538444	0.265028

Standard Error	0.032935	0.035873	0.03927	0.033285
Standard Deviation	0.197609	0.215236	0.235618	
				0.19971
Sample variance	0.3904932	0.04632654	0.05551584	0.03988
Minimum	0.101	0.02	0.19	0.005
Maximum	0.95	0.95	0.973	0.93
N	36	36	36	36

For the independent variables in table 4.2 above, Credit risk has a mean of 0.276806 and a standard deviation of 0.215236 insolvency risk has a mean of 0.53844 and a standard deviation of 0.235618, operational efficiency has a mean of 0.2650228 and a standard deviation of 0.19971. A reasonable level of consistency is observed between the mean and standard deviation for all variables. For the dependent variable, financial performance has a mean of 0.263111 and a standard deviation of 0.197609

4.2 Regression Results

In addition to descriptive analysis, the study conducted a cross-sectional OLS multiple regression on several firm characteristics over the period 2005–2015.

Table 2: Model Summary

<i>Regression Statistics</i>	
Multiple R	0.25374925
R Square	0.64388682
Adjusted R Square	0.53324879
Standard Error	0.199900426
Observations	36

The correlation and the coefficient of determination of the dependent variables (financial performance of commercial banks when all the three independent variables credit risk, insolvency risk and the operational efficiency combined was measured and tested. From the findings 64.39 percent of returns of the commercial banks were attributed to the independent variables investigated in this study.

Table 3: ANOVA

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	0.088001786	0.029333929	11.734078985	0.0039386104
Residual	32	1.27872577	0.03996018		
Total	35	1.366727556			

From the data findings in table 4.4 above, the sum of squares due to regression is 0.0880 while the mean sum of squares is 0.02933 with 3 degrees of freedom. The sum of squares due to residual is 1.278728 while the mean sum of squares due to residual is 0.0399602 with 32 degrees of freedom. The p value is 0.0039386. Since the p value is less than 0.05 implies that the relationship is significant at 95% level of significance, the model is therefore is significant for the study and prediction.

Table 4: Coefficients of Determination

	<i>Coefficient s</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Constant	0.2006305 33	0.10327638 8	1.9426563 7	0.060901 011	0.0097365 84	0.0410997 651
CREDIT RISK	0.0872993 87	0.16973455 2	0.5143289 1	0.610556 11	0.2584385 79	0.0433037 353
LQR	0.1768836 36	0.15079252 6	1.1730265 45	0.249443 175	0.1302706 87	0.0484037 959
OPR	0.2147940 45	0.1828763	1.1745318 85	0.248848 727	0.5873008 75	0.1577127 86

According to the model the Credit risk variable was positively related to financial performance measured by ROA. Its significance value was less than 0.05. The other variables (Insolvency risk and Operational efficiency risk) were also positively related to financial performance measured by ROA. Their significance value was also less than 0.05. The Operational efficiency was positively and insignificantly related to financial performance. Its significance value was 0.157713 which is more than the 0.05 percent level of significance. From the model, taking all factors (Credit risk, Insolvency risk, and Operational efficiency risk) constant at zero, financial performance had an autonomous value of 0.20063. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Credit risk will lead to a 0.0873 increase in financial performance. A unit increase in Insolvency risk will lead to a 0.176884 increase in financial performance. A unit increase in operational efficiency will lead to a 0.214794 increase in financial performance. This infers that Credit risk and Insolvency risk had a positive effect to the financial performance of the commercial banks in Tanzania. Also the operational efficiency had a positive contribution on the financial performance of commercial banks in Tanzania. The coefficient table above was used in coming up with the model below:

$$\text{Financial performance} = 0.20063 + 0.0873X_1 + 0.1769X_2 + 0.2148X_3 + 0.1033$$

4.3 Interpretation of Findings

The study found that the regression equations for the period 2008 to 2013 related financial performance of the commercial banks in Tanzania to their Credit risk, Insolvency risk, Operation efficiency. From the findings of the model summary from 2008 to 2013, 64.39 percent of the returns of commercial banks in Tanzania were explained by the independent variables (Credit risk, Insolvency risk and Operational efficiency) investigated in the study while other factors not studied in this research contributed 35.61 percent. The value of the F calculated from the regression table was 11.74 while the value of critical F was 4.72. Since calculated F was greater than the critical F, the model was significant for the study. From the coefficient table of 2008 to 2013, taking all factors (Credit risk, Insolvency risk and Operational efficiency) constant at zero, Returns will be 0.020063. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in

Credit will lead to a increase of 0.0873 in returns. A unit increase in Insolvency risk will lead to a 0.176884 Increase in financial performance. A unit increase in Operations efficiency will lead to a 0.214794 increase in financial performance.

4.4 Discussions

From the summary of findings, it is clearly evident that the credit risk had an effect on the financial performance of commercial banks in Tanzania as indicated by the coefficients of determination of year 2008 to 2013. The study found that the three independent variables in the study (Credit risk, Insolvency risk and Operational efficiency) influenced the financial performance for the period under study. Credit risk Insolvency risk and Operational efficiency influenced commercial banks financial performance for the period of study.

These findings are in line with that of Fatade (2004) who in studying the effect of Operational efficiency on the financial performance of commercial banks in Nigeria established that various Operational efficiency measures instituted in the country over the years have directly and indirectly affected performance of the banking sector in a number of ways while includes Banks profitability, Deposit/Savings mobilization Loans & Advances and so on. He further confirmed that the effectiveness of Operational efficiency of commercial affect the commercial banks financial performance in Nigeria. He further established that various Operational efficiency measures instituted in the country by various commercial banks over the years have directly and indirectly affected the financial performance of the commercial banks banking sector in a number of ways while includes Banks profitability. He further confirmed that the effectiveness of the Operational risk management efficiency depends on the instruments used in macroeconomic policies and the prevailing economic conditions and the deregulation of the sector which consequently led to a number of improvements.

These findings agree with the position held by Kamau, (2010) in a study of adaptation of risk management by commercial banks in Kenya, indicated that operational risk was very critical and it was 44% out of the other risks that occurred in commercial banks, and this is due to the high increase in the use of automated technology, lack of qualified staffs and lack of management supports in the organizations, and also the internal and external frauds. He also established that Operational risk management largely affects that profitability thus forcing banks to change their investment decision. He also indicated that when commercial banks change their investment decisions their financial performance is also likely to change or be affected due to the changes. His study concluded that regulatory distortions have an important effect on the efficiency and profitability of the Banking industry these findings are also in agreement with A Boston Consulting Group survey, Pourquery and Mulder, (2009) that found that operational risk management has yet to gain widespread acceptance as an essential component of the business. The results are also similar to the work of Cebenoyan et al., (1999) and Saunders and Wilson (2001), who found that there was a negative impact of ROA, which suggests a relationship between increased financial and Credit risk.

5.0 SUMMARY CONCLUSIONAND RECOMMENDATIONS

5.1 Conclusion

From the analysis, it can be noted that the three independent variables (Credit risk, Insolvency risk, and Operations efficiency) had varying degrees of effect on the financial performance of commercial banks in Tanzania. The study concludes that Credit risk influences the returns of commercial banks Tanzania positively. The study also deduced that Insolvency risk and Operational efficiency positively influenced the financial performance of

commercial banks in Tanzania. The results are similar to the work of Cebenoyan et al., (1999) and Saunders and Wilson (2001), who found that there was a negative impact on Return on Equity ROA, which suggests a relationship between increased financial performance and Credit risk.

Juxtaposing the essence of risk management in banks, and the effectiveness of the Basel framework for risk management, there is a substantial argument against the efficiency of the framework itself. Empirical findings from several studies such as Francis and Osborne (2009), Borio and Drehmann (2009) and Clement (2010), including this has shown that risk management efficiency in banks is co-determined by macroeconomic factors which vary with cycles. These macroeconomic factors have not been well integrated into the Basel guide. Although credit ratings have been suggested to qualify

The study also revealed that Insolvency risk positively influences financial performance of the Commercial banks in Tanzania. These findings are consistent with the works of Macha(2010)who stated that Insolvency risk are influences the financial performance of commercial banks. He further stated that Operational efficiency is attractive as instrument that can be used to improve the financial performance of commercial banks .Macha(2010) also in his study on operational risk management in the financial sectors in Tanzania found that of 56 financial intermediaries, only 20 of them have insurance against operational risk.

5.2 Recommendations for Policy and Practice

This study established that Credit risk, Insolvency risk and Operations efficiency Operations play a key role on the financial performance of the commercial banks in Tanzania .This study therefore recommends that the commercial banks should handle their operations appropriately as the changes in the factors like Insolvency and Credit risk bring about an effect on the profitability of commercial banks hence effecting their financial performance .Taking care of these risks will ensure stability at the Commercial banks sector in Tanzania and help provide funds through credit lending to businesses which help promote economic development .

This study also establishes that Operations efficiency are positively correlated with the financial performance of the commercial banks in Tanzania while Credit risk and Insolvency risk negatively influences financial performance of commercial banks in Tanzania. This study therefore recommends that commercial banks in Tanzania should balance off their borrowing and deposit rates since these banks are faced with many risk factors inclusive of Credit risk, Insolvency risk and Operational efficiency risk as these do affect the financial performance of these commercial banks.

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