ENTERPRISE RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN RWANDA.

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ABSTRACT

Banking sector in Rwanda is exposed to various risks which originate from both the internal and external environment. Financial risk threatens Banks financial viability and long-term sustainability. Market risk, credit, liquidity, and operational risks possess a major challenge despite growth in the sector. This study sought to examine the effect of enterprise risk management practices on financial performance of commercial banks in Rwanda. To achieve this the study examined the effects of credit risk management on the performance of commercial banks in Rwanda, established the effects of liquidity risk management on the performance of commercial banks in Rwanda, examined the effects of market risk management on the performance of commercial banks in Rwanda and determined the effects of operational risks management on the performance of commercial banks in Rwanda. The study adopted a descriptive research design. The target population for the study was thirty-nine top management mangers from 13 commercial banks in Rwanda. Census approach for 39 managers from the 13 commercial banks was undertaken. Both primary and secondary data was used in the study. Primary data on enterprise risk management practices was collected using a questionnaire while secondary data on the banks performance in financial perspective was obtained from various bank's published financial statements for 4 years from 2013-2016. Collected data was summarized by descriptive statistics like the standard deviation and the mean and then analyzed using regression analysis and correlation. The study established that credit risk management has a positive influence on the financial performance of Commercial Banks in Rwanda. The study revealed that liquidity risk management has a positive effect on the performance of Commercial Banks in Rwanda. The study determines that market risk management has a positive on the performance of Commercial Banks in Rwanda. The study established that operational risks management has a positive effect on the performance of Commercial Banks in Rwanda. The study found that there is a correlation between liquidity risk management, default risk management and market risk management with performance of the banks. The study findings indicated that credit risk management ($r=0.096$, $p<0.01$), liquidity risk management ($r=0.347$, $p<0.01$), market risk management ($r=0.506$, $p<0.01$) and operational risk management ($r=0.612$, $p<0.01$) on financial performance. It however found that the banks do not involve experts and consultants in market risk management thus recommendations were made for the banks to revise their credit risk management policies, open up and share information with other players on market risk thus involve consultants more in their market risk management and to be more proactive than reactive in risk management.

Keywords: *credit risk management, liquidity risk management, market risk management, operational risks management and financial performance*

1.1 Background

Over the last decades, the changing environment has posed a threat to the value maximization process in organizations. A dynamic organization is exposed to a staggering array of risks, as rich and diverse as the opportunities it enjoys (Anisetu, 2011). Moody (2008) notes that catastrophes and systemic shocks altered the way risk was managed in 1970s and 1980s, and risk management has emerged as a separate discipline in the corporate world since the 2000s. The concept of risk management is not so new because risk management techniques like: risk reduction through safety, quality control and hazard education; alternative risk financing; and insurance including self-insurance and captive insurance have been in existence for a long time (Doherty, 2006). Risks are now not perceived as threats but as potential opportunities and the focus of risk management has changed from all risks to critical risks (Hui, 2014). Hui (2014) adds that recognition of risk management as a separate managerial function entails many advantages and the inclusion of risk management as a strategy in the general management function helps to enhance a firm's value.

Enterprise risk management (ERM) is a new approach for companies a new way of thinking that allows a company to identify and manage its risk. In fact, the goal of ERM is to create, protect and enhance shareholder value (Barton et al. 2012). Enterprise risk management (ERM) is increasingly becoming a popular strategy that holistically evaluates and manages all the risks faced by the firm. By doing so, ERM uses the firm's risks to determine which risks can be allowed and which should be mitigated or avoided. (Nicholson et al, 2005). Efficiently managing financial risk in multinational companies is critical for the survival and growth in the economic globalization waves. Many large companies in the world that filed for bankruptcy protection were involuntarily liquidated or ceased operations mainly due to poor risk management during the past three decades. During the Swedish Banking Crisis in the 1990s the credit losses for the Swedish banks were extremely high (FI, 2011). The Swedish banks managed to get through the global mortgage crisis relatively well compared to banks in other countries due to help from the Swedish Government and "Riksbanken" (Central Bank of Sweden) still they were faced with large losses because of their operations in the Baltic states (FI, 2009). These crises show that the banking industry is exposed to high degrees of risks.

Williams, Smith, & Young, 2012 mentioned that risk management among banks has been inadequate and stressed the importance for a uniform procedure to monitor and regulate risks. During the years since then procedures have been improved with the expansion of the Basel agreements and international standards for reporting on risks and risk management (Barkley, 2014). However, the financial crisis in 2008 is evidence that the problem of risk management still exists. Lang and Jagtiani (2010) found there was still a lack in the management and control of risks in 2010. Further Lang and Jagtiani (2010) identified another factor to be insufficient in financial organizations at this time, internal control. Until now, particularly in the U.S., the clear majority of corporations have made very little information about their overall risk profiles available to stakeholders. Companies in many other industrialized countries, like Canada, the U.K. and Australia, are much more forthcoming about their risk and Enterprise Risk Management activities. The Basel Committee on Banking Supervision (BCBS) was formed in 1974 by G10 central bankers under the auspices of the Bank for International Settlements (BIS) following the collapse of Bankhaus Herstatt in Germany and Franklin National Bank in the United States in 1974 (Engelen, 2005). Initially, the Basel Accord was developed for internationally participating banks. However, it can equally be applied to banks with varying levels of complexity (BCBS, 2011). The Accord provides a principled framework for the treatment of risk coupled with supervisory review, hence adding increased flexibility in the calculation of risk and respective capital levels. Thus, the Accord has also contributed towards improvements in corporate governance and transparency (Makwiramiti, 2008).

1.1.1 Overview of Rwandan risk management practices

Given that the Rwandan banking system has experienced a rapid growth, it has always faced some challenges particularly related to risk management. Risk management and risk-detection can never be fully being complete since there are always unforeseen and unintended aspects of risk environment (National Bank of Rwanda [NBR], 2011). In addressing the need to mitigate risk and to predict future losses in the economy, National Bank of Rwanda (NBR) requires Bank managers to provide adequate risk management (National Bank of Rwanda [NBR], 2005). The Rwandan financial system is comprised of insurance, banking pension funds. The financial sector has fourteen (14) commercial banks; one development bank; two specialized banks; three micro-finance bank; one discount house, an estimated one hundred seventeen (122) micro-finance institutions currently operating and 416 Umurenge Sacco's, eleven (11) insurance companies and the Social Security Fund of Rwanda (National Bank of Rwanda[NBR],2012) . The commercial banks include, Bank of Kigali, Banque commerciale du Rwanda, Cogebanque, Access Bank, Ecobank, Fina Bank, Kenya commercial bank, Banque Populaire du Rwanda and Equity bank. However, Bank of Kigali is the largest bank in Rwanda by total assets, total loans and total deposits with a market share of 32%, 34.6% and 28.7% respectively as of 30th September 2012 (NBR, 2012). In 2011, Bank of Kigali became the second domestic company to be listed on the Rwanda Stock Exchange. Since 2009, the Bank of Kigali has been recognized for three years running as the Best Bank in Rwanda by emeafinance and Bank of the Year by The Banker. In 2011, it was also recognized as the Company of the year by the Kenya Institute of Management Rwanda. In 2012, it was further bestowed with the Best East African Bank Award by the African Banker magazine.

According to 2014 National Bank of Rwanda Report, the following are the main types of risks that the Bank is exposed to in the course of executing its operations, Credit risk, Liquidity risk, Market risk, Interest risk, Foreign currency exchange risk, Operational risk

The purpose of this research is to investigate the impact of Enterprise Risk Management on financial performance of commercial banks in Rwanda and if the performance is positively affected by risk and control self-assessment, key risk indicators, incident management, compliance of both internal and external regulations, and action tracking.

Through this study, commercial banks will benefit from our findings and recommendations so as to be aware of inherent risks they are exposed to and be way of the impact of a risk management system in their financial performance

1.2 Statement of the Problem

Risk Management in Commercial Banks and any other company is indispensable, if profit maximization and Survival must be achieved. Commercial Banks in their operations are sometimes exposed to different challenges; they range from closure of business, inflationary tendencies, foreign exchange rates fluctuations and other problems as a result of interconnectedness within the industry. With this knowledge, commercial banks formulate mechanisms to deal with the unforeseen challenges (risks), however the management of various institutions, banks in particular have an upper hand in what to implement or not, when and how.

Rwandan banking being under the financial service sector still face many challenges with respect to management of risks which they are exposed to, despite the tremendous growth in the sector (BNR, 2011). Deterioration of asset quality relates to increase in credit risk which reduces the expected profits. For instance, according to BNR report in 2015 this growth has however been accompanied by an increase in non-performing loans from 5.1% in 2015 to 6.7 % in 2016.

A number of research studies in Rwanda have attempted to address the issues of financial risk which have

been studied in piece meal manner. They have addressed the different components of financial risk individually. For instance, Sangwaire (2016), researched on credit risk while Nyamboga (2015) studied on financial risks at large. By tackling the risks individually these studies fail to acknowledge the effect of financial risk on the financial performance. Thus the need to take a comprehensive view on Rwandan perspective.

A study by consultancy firm Ernst & Young and the Institute of International Finance (2013) asserts that banks, having moved to enhance the structure of risk management post-crisis, are still working to fully operationalize those policies with most banks still finding it difficult to embed risk appetite. Therefore, it is on the basis of this gap that the present study will wish to establish the effect of Enterprise Risk Management Practices on financial performance of commercial banks in Rwanda

1.3 Research Objectives

1.3.1 General Objective

The general objective of this study was to examine the effect of enterprise risk management practices on financial performance of commercial banks in Rwanda.

1.3.2 Specific Objectives

This study was guided by the following objectives:

1. To determine the effects of credit risk management on the financial performance of commercial banks in Rwanda.
2. To determine the effects of liquidity risk management on the financial performance of commercial banks in Rwanda.
3. To examine the effects of market risk management on the financial performance of commercial banks in Rwanda.
4. To determine the effects of operational risks management on the financial performance of commercial banks in Rwanda.

1.4 Research Questions

The research sought to answer the following questions.
1. What are the effects of credit risk management on the financial performance of commercial banks in Rwanda?
2. Does liquidity risk management affect the financial performance of commercial banks in Rwanda?
3. What are the effects of market risk management on the financial performance of commercial banks in Rwanda?
4. Do operational risks management affect the financial performance of commercial banks in Rwanda?

2.0 Conceptual framework

Showing the effect of Enterprise Risk Management practices on financial performance of commercial banks, and improvements required in risk management will require assessing different elements which will be identified as dependent and independent variables.
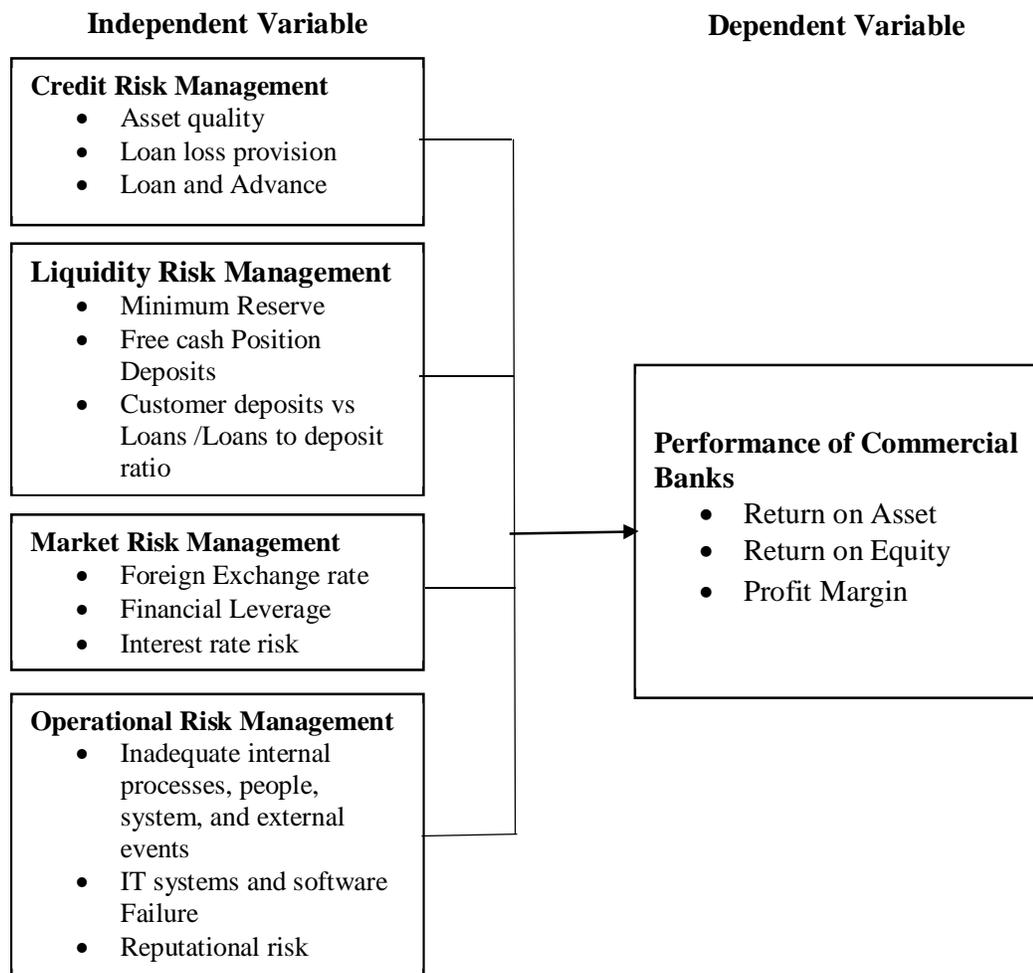
Independent Variable   **Dependent Variable**

Credit Risk Management
- Asset quality
- Loan loss provision
- Loan and Advance

Liquidity Risk Management
- Minimum Reserve
- Free cash Position Deposits
- Customer deposits vs Loans /Loans to deposit ratio

Performance of Commercial Banks
- Return on Asset
- Return on Equity
- Profit Margin

Market Risk Management
- Foreign Exchange rate
- Financial Leverage
- Interest rate risk

Operational Risk Management
- Inadequate internal processes, people, system, and external events
- IT systems and software Failure
- Reputational risk

Figure 2.6: Conceptual framework

3.0 Target population

Population refers to all people or items with the similar characteristics that one wishes to study (Zikmund et al., 2011). Population is a set of people or items with similar characteristics that a researcher intends to study and to draw statistical inferences or conclusions (Gall et al., 2006).

The target population for this research comprised of thirteen commercial banks licensed by National Bank of Rwanda (BNR). From each bank three top managers were targeted. These included the managing director, finance manager and operations manager. Therefore, the target population was 39 top managers.

3.1. Sample Frame

Sampling frame is a list of all the population subjects that the researcher targeted during the study (Cooper & Schindler, 2008). Using the Yamane's formula, the proportions of the sample size the computed sample

strata. The sample size of three top managers was selected. These included the managing director, finance manager and operations manager.

3.4.1 Sample size and sampling procedure

The study comprised of a sample of 13 commercial banks as licensed by National Bank of Rwanda (BNR). Census approach was applied in this study to determine the thirteen commercial banks. The researcher utilized information from 13 commercial banks.

4.3 Credit risk management on the Financial Performance

Majority of the respondents agreed; Credit risk management must play its role then to help banks be in compliance with Basel II Accord and other regulatory bodies as shown by mean of 1.66, Risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring also helps bank management to discover mistake at early stage. As shown by a mean of 1.70, Risk often comes in investing and in the allocation of capital which must be assessed so as to derive a sound investment decision as shown by mean of 1.78. Banks should plan certain estimates, conduct monitoring, and perform reviews of the performance of the bank, as shown by a mean of 1.84, banks must have substantial amount of capital on its reserve, but not too much that it misses the investment revenue, and not too little that it leads itself to financial instability and to the risk of regulatory non-compliance as shown by a mean 1.97.

Table 4.7: Statements relating to effects of credit risk management on the financial performance of Commercial Banks

Statements	Mean	Std. Dev
Banks should plan certain estimates, conduct monitoring, and perform reviews of the performance of the bank.	1.84	0.23
Bank must have substantial amount of capital on its reserve, but not too much that it misses the investment revenue, and not too little that it leads itself to financial instability and to the risk of regulatory non-compliance	1.97	0.19
Risk often comes in investing and in the allocation of capital which must be assessed so as to derive a sound investment decision.	1.78	0.24
Credit risk management must play its role then to help banks be in compliance with Basel II Accord and other regulatory bodies	1.66	ith d
Risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring and also helps bank management to discover mistake at early stage.	1.70	0.24

Discussion of results

The above findings concur with the findings by Santomero (1997) he asserts that Credit risk management must play its role then to help banks be in compliance with Basel II Accord and other regulatory bodies.

In determining the effects of credit risk management on the on financial performance of commercial banks in Rwanda, the study first found it necessary to evaluate the performance of the bank's financial performance variables under consideration that is the ROA as the dependent variable and the ratio of loans to deposits as independent variables influencing the financial performance. Returns on Assets (ROA) were generated from the EBITs and the corresponding book value of total assets of a commercial bank in a given year.

4.3.1 Correlation analysis of ROA and Credit Risk

Correlation analysis of ROA and Credit Risk was done. Table 4.2 indicate that credit risk is significantly correlated to ROA (r=0.096, p<0.01). There was weak correlation between ROA and Credit Risk.

Table 4.8: Correlation between Credit risk and ROA

		Credit risk	ROA
Credit risk	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	33	
ROA	Pearson Correlation	.096[**]	1
	Sig. (2-tailed)	.000	
	N	33	33
**. Correlation is significant at the 0.01 level (2-tailed).			

4.4 Liquidity risk management on the Financial Performance

On respondent's level of agreement with the above statements relating to effects of liquidity risk management on the performance of commercial bank form the findings, majority of the respondents agreed; holding more liquid assets and better matching cash-flows of assets and liabilities will reduce the liquidity risk of the bank and protect it from insolvency but also reduce its profitability as shown by a mean of 1.73, Liquidity is crucial to the on-going viability of any bank, as illiquidity can have dramatic and rapid adverse effects on even well capitalized banks as shown by mean a of 1.78, Liquidity management should be a top priority for bank management and regulators as shown by a mean of 1.92, the primary role of liquidity-risk management is to prospectively assess the need for funds to meet obligations and ensure the availability of cash or collateral to fulfill those needs at the appropriate time by coordinating the various sources of funds available to the institution under normal and stressed conditions as shown by mean a of 2.00, the study also established that Liquidity risk management system is an important part of risk management system of commercial banks, which should be commensurate with commercial banks, property and complexity. Liquidity risk management policy should be in conformity with the general development strategy of the bank, and match the general financial strength of the bank, with the interaction and conversion of liquid risk and other risks fully taken into account.

Table 4.9: Statements relating to effects of Liquidity risk management on the financial performance of Commercial Banks

Statements	Mean	Std. Dev
Liquidity management should be a top priority for bank management and regulators.	1.92	0.23
The primary role of liquidity-risk management is to prospectively assess the need for funds to meet obligations and ensure the availability of cash or collateral to fulfill those needs at the appropriate time by coordinating the various sources of funds available to the institution under normal and stressed conditions	2.00	0.18
Liquidity is crucial to the on-going viability of any bank, as illiquidity can have dramatic and rapid adverse effects on even well capitalized banks	1.78	0.22
Holding more liquid assets and better matching cash-flows of assets and liabilities will reduce the liquidity risk of the bank and protect it from insolvency but also reduce its profitability.	1.73	0.24

4.4.1 Correlation analysis of ROA and Liquidity risk

Table 4.4 indicate that liquidity risk management on financial performance (r=0.347, p<0.01). This implies that liquid risk management on financial performance of commercial banks in Rwanda.

Table 4.10: Correlation between liquidity risk management on financial performance

		Liquidity risk	Financial performance
Liquidity risk	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	33	
Financial performance	Pearson Correlation	.347[**]	1
	Sig. (2-tailed)	.000	
	N	33	33
**. Correlation is significant at the 0.01 level (2-tailed).			

4.5 Market Risk Management on the Financial Performance

Table 4.11: Statements relating to effects of market risk management on the financial performance of Commercial Banks

Statements	Mean	Std. Dev
Market risk management helps to identify, measure, monitor, and control exposure to market risk given the institution's size, complexity, and risk profile.	1.84	0.23
Market risk management helps to identify the sensitivity of the financial Institution's earnings or the economic value of its capital to adverse changes in interest rates, foreign exchanges rates, commodity prices, or equity prices.	1.97	0.19
As interest rates fluctuate the price of the asset will move in the opposite direction resulting in a risk of not being able to sell bonds at the same price or ending up with a lower than desirable interest rate on a loan	1.78	0.24
Banks with high exposure to one industry or one specific commodity are exposed to commodity risk	1.70	0.24

On respondent's level of agreement with the above statements relating to effects of market risk management on the performance of commercial bank form the findings, majority of the respondents agreed that; banks with high exposure to one industry or one specific commodity are exposed to commodity risk as shown by a mean of 1.65, as interest rates fluctuate the price of the asset will move in the opposite direction resulting in a risk of not being able to sell bonds at the same price or ending up with a lower than desirable interest rate on a loan as shown by mean of 1.76, Market risk management helps to identify, measure, monitor, and control exposure to market risk given the institution's size, complexity, and risk profile as shown by mean of 1.84, Market risk management helps to identify the sensitivity of the financial institution's earnings or the economic value of its capital to adverse changes in interest rates, foreign exchanges rates,

Commodity prices, or equity prices as shown by mean of 1.89. The study further established that Banks with market risk management may increases their reputation and opportunity to attract more wide customers in building their portfolio of fund resources; they may also increase their efficiency and profitability. The above findings concur with the study findings by Cebenoyan and Strahan (2004) they found that banks which have advanced in market risk management plan have greater credit availability, rather than reduced risk in the banking system. The greater credit availability leads to the opportunity to increase the productive assets and bank's profit.

Table 4.12: Correlation between Market risks on financial performance

		Market risk	Financial performance
Market risk	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	33	
Financial performance	Pearson Correlation	.506[**]	1
	Sig. (2-tailed)	.000	
	N	33	33
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 4.6 indicate that market risk is significantly correlated to financial performance (r=0.506, p<0.01). This implies that market risk would result to financial performance of commercial banks in Rwanda.

4.6 Operational Risk Management on the Financial Performance
Table 4.13: Statements relating to effects of operational risk management on the financial performance of Commercial Banks

Statements	Mean	Std. Dev
Most financial risks are handled centrally, but operational risks are usually implemented in the various operational units relating to the risk.	1.68	0.23
Basel committee encourages banks to establish more sophisticated operational risk measurement systems and practices such as the Advanced Measurement Approach	1.57	0.28
Banks often calculate the operational risk coverage by estimating the probability of an occurrence of a particular event and the potential loss from this event	1.76	0.24
About half of all operational risk events that occurs in banks are problems within the institution's control and that a small amount was caused by process failures regarding monitoring and reporting	1.76	0.24
Operational risks hold no strategic value for the firm since they in the long run will diminish the value of the company	1.62	0.26

On respondent's level of agreement with the above statements relating to effects of Operational risk management on the performance of commercial bank form the findings, majority of the respondents agreed that; Basel committee encourages banks to establish more sophisticated operational risk measurement systems and practices such as the Advanced Measurement Approach as shown by mean of 1.57, operational risks hold no strategic value for the firm since they in the long run will diminish the value of the company as shown by a mean of 1.62, most financial risks are handled centrally, but operational risks are usually implemented in the various operational units relating to the risk as shown by a mean of 1.68, about half of all operational risk events that occurs in banks are problems within the institution's control and that a small amount was caused by process failures regarding monitoring and reporting, banks often calculate the operational risk coverage by estimating the probability of an occurrence of a particular event and the potential loss from this event as shown by a mean of 1.76 in each case. The study further established that it is of crucial importance that banks practice operational risk management so as to safe guard the assets of the banks and protect the investors' interests. The above findings concur with the study findings by Dunnet et al. (2005,) they argue that banks often calculate the operational risk coverage by estimating the probability of an occurrence of a particular event and the potential loss from this event.

Table 4.14: Correlation between operational risks on financial performance

		Operational risk	Financial performance
Operational risk	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	33	
Financial performance	Pearson Correlation	.612**	1
	Sig. (2-tailed)	.000	
	N	33	33

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.8 indicate that operational risk is significantly correlated to financial performance ($r=0.612$, $p<0.01$). This implies that operational risk would result to financial performance of commercial banks in Rwanda.

4.7 Regression Analysis

Regression analysis was done to examine the effect of enterprise risk management practices on financial performance of commercial banks in Rwanda.

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.542[a]	.294	.268	.130

   a. Predictors: (Constant), Credit risk, Liquidity risk, Market risks, and operational risks

Table 4.9 shows that the coefficient of determination R square is 0.294 and R is 0.542 at 0.05 significant level. The coefficient of determination indicates that 29.4% of the variation in the dependent variable commercial banks financial performance is explained by the independent variables (Credit risk, Liquidity risk, Market risks, and operational risks).

Table 4.16 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.575[a]	3	.192	11.388	.000[b]
	Residual	1.379	82	.017		
	Total	1.953	85			

a. Dependent Variable: Financial performance
b. Predictors: (Constant), Credit risk, Liquidity risk, Market risks, and operational risks

Table 4.10 presents the results of Analysis of Variance (ANOVA) on enterprise risk management versus financial performance of commercial banks in Rwanda. The ANOVA results for regression coefficient indicate that the significance of the F is 0.00 which is less than 0.05. This implies that there is a positive significant relationship between enterprise risk management versus financial performance of commercial banks in Rwanda and that the model is a good fit for the data.

Table 4.17: Coefficient results showing the relationship between the combined human enterprise risk management and financial performance of commercial banks in Rwanda

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	.455	.231		1.973	.106
	Credit risk	.016	.009	.444	1.815	.009
	Liquidity risk	.182	.050	1.231	3.616	.036
	Market risk	.153	.017	1.075	3.159	.025
	Operational risk	.204	.240	.230	.850	.028

From the data in the above table the established regression equation was

Y = 0.455 + 0.016 X1 + 0.182 X2 + 0.153 X3 + 0.204 X4

From the above regression equation, it was revealed that holding Credit risk, Liquidity risk, Market risks, and operational risks to a constant zero, financial performance would be at 0.455. A unit increase on credit

risk management would lead to increase in financial performance by a factor of 0.016, a unit increase in Liquidity risk would lead to increase in financial performance by a factor of 0.182, a unit increase in market risk would lead to increase in financial performance by a factor of 0.153 and unit increase in operational would lead to increase in financial performance by a factor of 0.204.

5.3. Conclusions

5.3.1 Credit risk and financial performance

The study established that credit risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring and also helps bank management to discover mistake at early stage thus the study concludes that credit risk management has a positive influence on the financial performance of Commercial Banks in Rwanda. This indicates that poor asset quality or high non-performing loans to total asset related to poor bank performance.

5.3.2 Liquidity risk and financial performance

The study revealed that Liquidity management should be a top priority for bank management and regulators; therefore, the study concludes that liquidity risk management has a positive effect on the performance of financial performance of Commercial Banks in Rwanda.

5.3.3 Market risk and financial performance

The study determine that Market risk management helps to identify the sensitivity of the
financial institution's earnings or the economic value of its capital to adverse changes in interest rates, foreign exchanges rates, commodity prices, or equity prices thus the study concludes that market risk management has a positive on the performance of financial performance of Commercial Banks in Rwanda

5.3.4 Operational risk and financial performance

The study established that banks often calculate the operational risk coverage by estimating the probability of an occurrence of a particular event and the potential loss from this event, thus the study concludes that Operational risks management has a positive effect financial performance of Commercial Banks in Rwanda.

5.4. Recommendations

5.4.1 Credit risk on financial performance

Clear credit policies and lending guidelines should be established. Management also is required to make sure that the terms and conditions are adhered to in loans approval. Hence lending guidelines should be approved by senior management and made aware to all staffs. This will reduce loss on nonperforming loans and improve the asset quality management which raises banks' expenses and consequently increase profitability. It is also recommended that the bank need to monitor the loan and advances to total deposits ratio frequently since it also affect profitability.

Based on the findings, the study recommends that Supervisors should regularly perform a
Comprehensive assessment of a bank 's overall credit risk management framework and credit position to determine whether they deliver an adequate level of resilience to credit stress given the banks role in the financial system.

Supervisors should supplement their regular assessments of a bank's credit risk management framework and liquidity position by monitoring a combination of internal reports, prudential reports and market information.

5.4.2 Liquidity risk on financial performance

Senior management should develop a strategy, policies and practices to manage liquidity risk in accordance with the risk tolerance and to ensure that the bank maintains sufficient liquidity. Senior management should

continuously review information on the bank 's liquidity developments and report to the board of directors on a regular basis.

Bank 's board of directors should review and approve the strategy; policies and practices related to the management of liquidity at least annually and ensure that senior management manages liquidity risk effectively.

5.4.3 Market risk on financial performance

Bank should incorporate market risk management in the internal pricing, performance measurement and new product approval process for all significant business activities (both on and off-balance sheet), thereby aligning the risk-taking incentives of individual commercial banks.

Commercial banks especially locally owned are required to consider finding ways of mitigating the market risks such use of financial derivatives and asset securitization which will reduce their interest rate and foreign currency risk exposure. This can be done by use of generally accepted financial concepts and techniques for risk measurement. The government and regulators of the banks ought to control not only inflation rates and interest rates but also off-balance sheet items and other factors by setting a standard for the maximum amount of risks and benchmark for the minimum amount of overall return for each determinant of risk and return respectively.

5.4.4 Operational risk on financial performance

The study recommends the management of commercial banks should adopt operational risk management, this will ensure early identification, assessment, monitoring, control and mitigation regarding operational risks in a comprehensive manner as a financial institution.

This is in line with the proposal in the new Basel Capital Accord, banks are required to provide capital for operational risk. Banks are enjoined to develop viable internal approaches to the measurement of operational risks and to put in place operational risk management and control processes, which should cover the design, implementation and review of operational risk methodology. The banks' internal audit groups are expected to conduct regular reviews of the operational risk management involvement of the board of directors, and senior management of banks are expected in risk management.

5.5. Areas for further research

The study investigated the effects of Enterprise Risk Management methods on the performance of Commercial Banks. Other research may focus on the relationship between effects of BNR monitory policies on the performance of local banks.

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