The Contribution of Loan Risk Management on the Profitability of Commercial Banks. A Case Study of Bank of Kigali Headquarters,

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ABSTRACT

The purpose of this paper was to analyze the contribution of loan risk management on the profitability of Bank of Kigali. The research used descriptive and correlational research designs.

The population of this research was composed by 57 respondents. Purposive and universal sampling techniques were used. In order to collect data, questionnaire and interview guide were applied. Data were analyzed by using the Statistical Package for Social Sciences (SPSS) and statistical method was employed. Findings showed that the net profit ratio was 34.94% in 2011 while in 2012 it was 34.02%, in 2013, it increased up to 41.90% while in 2014 the net profit was reduced at 36.17%. The significant Spearman correlation coefficient value Rs = 0.708 confirms that there appears to be a strong positive correlation between the two variables (Loan Risk Management and Profitability of BK). However, we need to perform a significance test to decide whether based upon this sample there is a greater contribution of loan risk management on the profitability of BK

Key Words: Loan Risk Management, Profitability and Commercial Banks.

Introduction

Banks are relevant to economic development through the financial services they provide. Their intermediation role can be said to be a means for economic growth. The efficient and effective performance of the banking industry over time is a key of financial stability in any nation. The extent to which a bank extends credit to the public for productive activities accelerates the speed of a nation's economic growth and its long-term sustainability. The credit function of banks enhances the ability of investors to exploit desired profitable ventures. Credit creation is the main income generating activity of banks; however, it exposes the banks to credit risk (Kargi, 2011).

Credit risk is the most obvious risk of a bank by the nature of its activity. In terms of potential losses, it is typically the largest type of risk. Credit risk is the risk that a borrower defaults and does not honor its obligation to service debt. It can occur when the counterpart is unable to pay or cannot pay on time (Tony, Gestel & Baesens, 2009).

Among other risks faced by banks, credit risk plays an important role on banks' profitability since a large chunk of banks' revenue accrues from loans from which interest is derived. However, interest rate risk is directly linked to credit risk implying that high or increment in interest rate increases the chances of loan default. Credit risk and interest rate risk are intrinsically related to each other and not separable (Drehman, Sorensen, and Stringa, 2008). Increasing amount of non-performing loans in the credit portfolio is inimical to banks in achieving their objectives. Non-performing loan is the percentage of loan values that are not serviced for three months and above (Ahmad and Ariff, 2007).

Due to the increasing spate of non-performing loans, the Basel II Accord emphasized on credit risk management practices. Compliance with the Accord means a sound approach to tackling credit risk has been taken and this ultimately improves bank performance. Through the effective management of credit risk exposure, banks not only support the viability and profitability of their own business, they also contribute to systemic stability and to an efficient allocation of capital in the economy (Psillaki, Tsolas, and Margaritis, 2010).

Loan risk management is a structured approach to manage uncertainties arising from the probability that the borrower will default to pay the money that he/she takes as a loan (either the principal or interest or both). Effectiveness in this area has an impact

on the profitability, liquidity, solvency, loan Risk and financial influence of commercial banks in every country. Manzura and Juanjuan, (2009) studied credit risk management and Profitability of Commercial Banks in Sweden and found that there is a reasonable effect of loan risk management on profitability of those commercial banks.

A number of commercial banks in the world has collapsed or experienced financial problems due to inefficient loan Management systems. The study seeks to examine the relationship between loan risk management and banks' profitability. The past decade has seen dramatic losses in the banking industry. Firms that had been performing well suddenly announced large losses due to credit exposures that turned sour.

In Asia, a number of financial institutions have collapsed or experienced financial problems due to inefficient credit risk management systems. Most banks in economies such as Thailand, Indonesia, Malaysia and Japan experienced high nonperforming loans and significant credit risk rises during banking crises in East and South Asian (1980-2002), which resulted in the closing down of several banks in Indonesia and Thailand (Al-Tamimi, 2002).

In Africa, an example given is Zimbabwe, where the period 2003 - 2004 saw a number of banks being forced to close down in what was termed the Zimbabwean Banking Crisis and the main cause being poor credit risk management. The number of financial institutions declined from forty (40) as at 31 December 2003 to twenty-nine (29) as at 31 December 2004 (Njanike, 2009).

Rwanda is also dealing with the economic power through different investment activities by working with financial institutions where Rwandan commercial banks are concerned (MINECOFIN 2012). A sound credit risk management is critical for the survival and growth of commercial banks (BNR,2010).

Bank of Kigali as a commercial bank that deals with banking activities as well as lending out money, is more concerned with the well management of its Credit. BK has the Committee composed by four independent non-executive board members and meets on quarterly basis or more frequently as its business demands. The mandate of the Risk Management Committee is to ensure that the Bank's enterprise risk management policies and procedures are updated to ensure that the risks are properly identified, effectively controlled and managed. The committee is responsible for

monitoring and managing the Bank's balance sheet to ensure that various business risks such as liquidity, capital, market and currency risks are monitored and mitigated in compliance with the Bank's policies and Central Bank guidelines (BK, 2015). The aim of this study is to analyze the contribution of loan risk management on the profitability of Bank of Kigali.

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long-run. So, measuring current and past profitability is very important. Profitability is measured by income and expenses. Income is generated from the activities of the business. A business that is highly profitable has the ability to reward its owners with a large return on the investment (Waweru & Kalani, 2009).

A profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Important changes in the operating environment particularly credit risk is likely to affect bank profitability. Empirical analysis finds that both bank-specific as well as macroeconomic factors are important determinants in the profitability of banks (Ross, Westerfield, Jordan, & Jaffe, 2007).

A success story of strength, stability and sustainable profitable growth of Bank of Kigali as indicated by the Bank's performance demonstrates the disciplined risk management that supports long-term, sustainable success. This is evidenced by the increase of net profit during the period 2011-2014 respectively presented as follows: RWF 8,688,765 in 2011; RWF11,781,336,000 in the year 2012; RWF 14,830,235,000 in 2013 and RWF 15,478, 358,000 in 2014 (BK, 2014).

Different factors such as internal audit practices, qualified and well-trained employees, loan risk management, stronger advertisement, big number of customers, more branches opened in the whole country and reputation experiences have contributed to the profitability of BK. The main purpose of this study is to analyze the contribution of loan risk management to the profitability of "*Bank of Kigali*" within the period 2011 - 2014.

Materials and Methods

According to Jill and Roger (2003), a research design is simply the framework or plan for a study to be used as a guide in collection, measurement and analysis of data in a manner that satisfies the study objectives. In this study, descriptive research design was applied where it described the techniques of

loan risk management used by Bank of Kigali. It was also describing levels of profitability of Bank of Kigali from 2011 up to 2014. This research is correlational as it looks for relationship between loan risk management and profitability of BK from 2011 up to 2014, and for achieving all, the researchers used SPSS Version 16.0.

The population of this research is composed by 57 employees of BK Headquarters, especially those who are involved in credit and management of this bank. The sampling techniques that the researchers used in this study were purposive and universal.

Under this section the research dealt with the techniques to collect primary and secondary data. For collecting primary data the researchers used documentary, observation and questionnaire techniques.

In participating to the field of research, the researcher observed the situations that happen in the field of research and gets image and conditions in which credits Risk management in BK Headquarters is done and see the employee's behavior in that field.

The questionnaire used was composed by closed ended questions. In respect of secondary data, the researchers read the financial reports, and published documents of BK Headquarters in order to complete the data from respondents.

Results and Discussion

The researchers went on the field of research (BK Head office) to distribute questionnaire to the selected 57 respondents. The participation rate was 98.2% where from 57 respondents given questionnaire one of them was missed.

The data collected and presented include credit risk management techniques used by BK and the level of profitability within the period of the research.

Table 1: BK Headquarters follows the loan risk management techniques

		Frequency	Percent	Cumulative Percent
Valid	Yes	56	98.2	98.2
	No	0	00.0	98.2
	Total	56	98.2	100.0
Missing	System	1	1.8	
Total		57	100.0	

In table 1 respondents present their opinions whether BK Headquarters follows the loan risk management techniques where all participants confirmed that BK Head quarters

used different loan risk management for avoiding high nonperformance loans.

The pervasiveness and complexity of credit risk presents strong challenges to managers, one of the most important being lack of efficient determination of credit worthiness of a potential customer. This, therefore, means establishing mechanisms and strategies of insulating the company's value against huge defaults (Bowman, 2000).

Opinions on the techniques of loan risk management used by BK Headquarters

The following tables provide data about techniques of loan risk management adopted by BK to control loans delivery.

Table 2: BK Headquarters use Risk Transfer as technique of loan risk management

		Frequency	Percent	Cumulative Percent
Valid	Yes	49	86.0	87.5
	No	7	12.3	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

Table 2 presents opinions about how BK Headquarters uses Risk Transfer as technique of loan risk management. Out of 56 respondents who participated, 86.0% of respondents said "yes", while only 12.3% of respondents said "No" and there were 1.8% missing questionnaires. Generally, Risk Transfer is used by BK to manage risk of loans delivery.

This risk transfer is frequently cited as a stabilizing factor in the financial system, reducing concentrations of exposures at individual banks and spreading credit risk more widely to those parties best able to hold it (Geithner 2006).

Table 3: BK Headquarters adopts derivatives and loan Mechanisms

		Frequency	Percent	Cumulative Percent
Valid	Yes	40	70.2	71.4
	No	16	28.1	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

Table 3 shows opinions of respondents if BK Headquarters adopts derivatives and loan Mechanisms. Out of 56 respondents, 70.2% of respondents confirmed that BK Headquarters adopts derivatives and loan mechanisms as technique of loan risk management while only 28.1% of respondents said “No” and there was 1.8% missing questionnaire. The majority of respondents confirmed that BK Headquarters adopts derivatives and loan Mechanisms. The adoption of derivative and loan mechanisms helps BK in loan risk management.

Duffee and Zhou (2001), argue that credit derivatives allow banks to reduce credit risk exposures in a more flexible, dynamic way over the life of a loan as compared to loan sales, which are for the loan’s full term.

Table 4: BK Headquarters uses Risk Diversification as technique of loan risk management

		Frequency	Percent	Cumulative Percent
Valid	Yes	45	78.9	80.4
	No	11	19.3	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

Table 4 indicates opinions of respondents if BK Headquarters uses Risk Diversification as technique of loan risk management, 78.9% of respondents said “Yes” that BK Headquarters uses risk diversification as technique of loan risk management while, only 19.3% of respondents said “No”. and the missing was 1.8% of respondent. Majority 78.9% of respondents confirmed that BK Headquarters uses risk diversification as technique of loan risk management.

The traditional banking theory suggests that the banks should diversify their credit portfolio in order to reduce the credit risk; this suggestion is also according to the portfolio theory (Markowitz, 2002).

Table 5: BK Headquarters use Risk Retention as technique of loan risk management

		Frequency	Percent	Cumulative Percent
Valid	Yes	47	82.5	83.9
	No	9	15.8	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 5 presents opinions of respondents whether BK Headquarters use Risk Retention as technique of loan risk management, 82.5% of respondents said "Yes" that BK Headquarters uses risk retention as technique of loan risk management while only 15.8% of respondents said "No", and the missing was 1.8% of respondent. Majority of respondents (82.5%) confirmed that BK Headquarters use Risk Retention as technique of loan risk management.

Demiroglu and James provide evidence that sponsor risk retention is empirically significant. He argues that when loan originators are affiliated with a deal's sponsor, incentives to underwrite increase, which lead to higher quality loans in both observable and unobservable dimensions (Demiroglu and James, 2012).

Table 6: BK Headquarters implement credit policy for borrowers

		Frequency	Percent	Cumulative Percent
Valid	Yes	33	57.9	58.9
	No	23	40.4	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 6 shows the opinions of respondents whether BK Headquarters implements credit policy for borrowers, 57.9% respondents said "Yes", while 40.4% respondents said "No", and the missing was 1.8% respondent.

Majority of respondents (57.9%) confirmed that BK Headquarters implements credit policy for borrowers. The implementation of credit policy for borrowers helps in loan risk management.

Credit policies represent the guidelines and rules established by top management to

govern or oversee the organization's credit department and its performance. This can include credit or loan qualification requirements, loan amounts, types of customers, collateral requirements and applicable interest rates (Franklin, 2017).

Table 7: BK Headquarters controls location of financed businesses

		Frequency	Percent	Cumulative Percent
Valid	Ys	41	71.9	73.2
	No	15	26.3	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 7 indicates the opinions of respondents if BK Headquarters controls location of financed businesses, 71.9% of respondents confirmed that BK Headquarters controls location of financed businesses, while 26.3% of respondents said "No" and the missing was 1.8% of respondents. Majority of respondents (71.9%) confirmed that BK Headquarters controls location of financed businesses. To control location of financed businesses helped BK to know the direction of loans delivered from this Bank.

Table 8: BK Headquarters verifies types and amounts of credits requested

		Frequency	Percent	Cumulative Percent
Valid	Yes	39	68.4	69.6
	No	17	29.8	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 8 presents the opinions of respondents whether BK Headquarters verifies types and amounts of credits requested, 68.4% of respondents said "Yes" while 29.8% of respondents said "No" and the missing was 1.8% respondents. Majority of respondents (68.4%) confirmed that BK Headquarters verifies the types and amounts of credits requested. BK determines types and amounts of loans delivered to customers for limiting loans risk. Boyes, Hoffman, and Low demonstrate how maximum likelihood estimates of default probabilities can be obtained using the data on borrower specific

personal characteristics, amount requested, economic variables and financial variables from credit card applicants. (Boyes, Hoffman, and Low, 2009).

The perceptions on Profitability of Bank of Kigali Headquarters

The profitability is considered as a measure of income, which is a way to measure a company's performance. It is simply the capacity to make a profit, and a profit is what is left over from income earned after you have deducted all costs and expenses related to earning the income; and the below tables present profitability indicators of BK Headquarters.

Table 9: BK Headquarters obtained great revenues from 2011 up to 2014

		Frequency	Percent	Cumulative Percent
Valid	Yes	46	80.7	82.1
	No	10	17.5	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 9 presents the opinions of respondents on BK Headquarters obtain great revenues from 2011 up to 2014, the 80.7% of respondents said “Yes”, while 17.5% of respondents said “No”, and the missing was 1.8% respondent. Majority of respondents (80.7%) confirmed that BK obtains great revenues from 2011 up to 2014**.** From these findings, the conclusion is that there is an increase of revenues in the period of research as it is confirmed by the majority of respondents.

Since banks receive interest on their loans, their profits are derived from the spread between the rate they pay for the deposits and the rate they earn or receive from borrowers which increase banks revenues. (MARK J. FLANNERY 2014).

Table 10: BK Headquarters presented enough net income from 2011 up to 2014

		Frequency	Percent	Cumulative Percent
Valid	Yes	47	82.5	83.9
	No	9	15.8	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 10 shows the opinions of respondents whether BK Headquarters presents enough net income from 2011 up to 2014, the 82.5% of respondents said “Yes” while 15.8% of respondents said “No”, and the missing was 1.8% respondent. Majority of respondents (82.5%) confirmed that BK Headquarters presents enough net income from 2011 up to 2014. To obtain an increase of net income, BK used different strategies of loan risk management. Like all businesses, banks profit by earning more money than what they pay in expenses.

The major portion of a bank's profit comes from the fees that it charges for its services and the interest that it earns on its loans to individuals, businesses, and other organizations and the securities that it holds. (Hans W.2014).

Table 11: Increase of ROA of BK Headquarters as profitability indicator

		Frequency	Percent	Cumulative Percent
Valid	Yes	45	78.9	80.4
	No	11	19.3	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 11 shows the opinions of respondents on increase of BK Headquarters ROA as profitability indicator, 78.9% of respondents said “Yes” while only 19.3% of respondents said “No” that BK Headquarters increased its ROA (Return on Assets) as profitability indicator, and the missing was 1.8% of respondent. Majority of respondents (78.9%) confirmed that BK Headquarters increased its ROA as profitability indicator.

The return on assets (ROA) is one of the most widely used profitability ratios because it is related to both profit margin and asset turnover, and shows the rate of return for both creditors and investors of the company. (Khadafi, et al 2014).

Table 12: Increase of ROE of BK Headquarters as profitability indicator

		Frequency	Percent	Cumulative Percent
Valid	Yes	50	87.7	89.3
	No	6	10.5	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 12 indicates the opinions of respondents on increase of ROE (Return on Equity) in BK Headquarters as profitability indicator, 87.7% of respondents said "Yes, 10.5% of respondents said "No", and the missing was 1.8% of respondents. Majority of respondents (87.7%) confirmed that BK Headquarters increased its ROE as profitability indicator. According to William Spaulding the return on equity (ROE), is the best measure of the return, since it is the product of the operating performance, asset turnover, and debt-equity management of the firm. (Khadafi, et al 2014).

Table 13: BK Headquarters enhance ROI in accordance of loan investment

		Frequency	Percent	Cumulative Percent
Valid	Yes	44	77.2	78.6
	No	12	21.1	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 13 presents the opinions of respondents whether BK Headquarters enhance ROI (Return on Investment) in accordance of loan investment, 77.2% of respondents said "Yes", while 21.1% respondents said "No", and the missing was 1.8% respondent. Majority of respondents (77.2%) confirmed that BK Headquarters enhance ROI in accordance of loan investment.

The companies use the return on investment with the intention to know what the company invests in property, plants, and equipment, and other factors of production, (Khadafi, et al 2014).

Profitability Ratios Analysis in BK Headquarters

Table 14: BK profitability Ratios from 2011 to 2014

PROFITABILITY RATIOS	2014	2013	2012	2011
Return on Average Asset	4.0%	4.0%	3.9%	3`6%
Return on Average Equity	22.9%	22.2%	18.9%	18.6%
Net Interest Margin	9.9%	11.5%	9.6%	8.4%
Loan Yield	20.5%	20.5%	17.0%	16.9%

Source: Secondary data, BK Annually reports, 2014

The table 14 illustrates the profitability evolution of BK from 2011 up to 2014 where Return on Average Asset were 3.6%, 3.9%, 4.0% and 4.4% respectively in 2011, 2012, 2013 and 2014. The Return on Average Equity was 18.6%, 18.9%, 22.2% and 22.9% respectively in 2011, 2012, 2013 and 2014. Net Interest Margin were 8.4%, 9.6%, 11.5% and 9.6% respectively in 2011, 2012, 2013 and 2014. Loan Yield were 16.9%, 17.0%, 20.5% and 20.5% respectively in 2011, 2012, 2013 and 2014. Generally, BK presented the evolution of profitability from 2011 up to 2014.

Generally, BK presented the evolution of profitability from 2011 up to 2014. Hans Wagner Argues that the financial ratios help companies in assessing how profitable entity currently earns from using or managing the existing resources to generate profits and add the value to its shareholders or owners. (Hans Wagner 2014).

Contribution of loan Risk Management on Profitability of BK Headquarters

This section presents perceptions from respondents of BK Headquarters about the contribution of loan risk management to the profitability of that bank as it is presented in the following tables.

Table 15: Application of loan risk management techniques increased revenues from 2011 up to 2014

		Frequency	Percent	Cumulative Percent
Valid	Strongly Agree	8	14.0	14.3
	Agree	41	71.9	87.5
	Disagree	7	12.3	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 15 presents the opinion of respondents about how the application of loan risk management techniques increased revenues from 2011 up to 2014. Out of 57 respondents, 14.0% strongly agreed with the statement and 71.9% agreed; 12.3% of respondents disagreed while the missing was 1.8% of respondents. The majority of respondents (87.5%) confirmed that application of loan risk management techniques increased revenues from 2011 up to 2014.

Table 16: BK used Risk Transfer as a technique to manage its expenses

		Frequency	Percent	Cumulative Percent
Valid	Strongly Agree	5	8.8	8.9
	Agree	43	75.4	85.7
	Disagree	7	12.3	98.2
	Strongly Disagree	1	1.8	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 16 shows the opinion of respondents about how BK uses Risk Transfer as technique of loan management to manage its expenses. Out of 57 respondents, 8.8% and 75.4% of respondents strongly agreed and agreed respectively, while 12.3% and 1.8% respondents disagreed and strongly disagreed respectively. The missing was 1.8% of respondents. Majority of respondents (85.7%) confirmed that BK used Risk Transfer as technique to manage its expenses.

Table 17: BK used Risk Diversification to avoid a concentration on credit risk problems.

		Frequency	Percent	Cumulative Percent
Valid	Strongly Agree	5	8.8	8.9
	Agree	37	64.9	75.0
	Disagree	13	22.8	98.2
	Strongly Disagree	1	1.8	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 17 shows the opinion of respondents about the use of Risk Diversification. Out of 57 respondents, 8.8% and 64.9% respondents strongly agreed and agreed respectively, while 22.8% and 1.8% respondents disagreed and strongly disagreed respectively. The missing was 1.8% of respondents. Majority of respondents (75.0%) confirmed that BK used Risk Diversification to avoid a concentration on credit risk problems.

That technique is about the allocation process which provides a good diversification of the risk across various borrowers of different types of industry and sectors. Diversification strategies spread the credit risk in order to avoid a concentration on credit risk problems. The key is to find a medium between risk and return; this ensures that you achieve your financial goals. For the case of BK, we can conclude that financial goals have been achieved by using the Risk Diversification technique as revealed by respondents.

Table18: Using Risk Retention increases Return on investment

		Frequency	Percent	Cumulative Percent
Valid	Strongly Agree	22	38.6	39.3
	Agree	32	56.1	96.4
	Disagree	2	3.5	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 18 indicates the opinion of respondents about using risk retention. Out of 57 respondents, 38.6% and 56.1% of respondents strongly agreed and agreed with the statement, while 3.5% of respondents disagreed. The missing was 1.8% of respondents. Majority of respondents (96.4%) confirmed that using Risk retention increased Return on investment. Risk management can also be implemented through the acceptance of risk (Risk Retention). Companies retain a certain level of risk brought on by specific projects or expansion if the anticipated profit generated from the business activity is far greater than its potential risk. As conclusion, the use of Risk Retention technique in BK is evidenced by different branches opened in the country as expansion of its business.

Table 19: Application of Credit policy enhanced gross profit of BK

		Frequency	Percent	Cumulative Percent
Valid	Strongly Agree	16	28.1	28.6
	Agree	36	63.2	92.9
	Disagree	4	7.0	100.0
	Total	56	98.2	
Missing	System	1	1.8	
Total		57	100.0	

The table 19 presents the opinion of respondents about the application of credit policy in BK. Out of 57 respondents, 28.1% and 63.2% of respondents strongly agreed and agreed that the application of credit policy enhanced gross profit of BK, while, 7.0% of respondents disagreed. The missing was 1.8% of respondents. Majority of respondents (92.0%) confirmed that the application of Credit policy enhanced gross profit of BK. It is known that credit policy includes the rules and procedures which a firm has chosen to guide it in the granting of credit to its customers. Thus, in implementing rules and procedures related to credit granting, BK managed to enhance its Gross Profit as it is indicated in its financial statements.

Relationship between Loan Risk Management and Profitability of BK

Spearman's correlation coefficient: is a statistical measure of the strength of a monotonic relationship between paired data. In a sample, it is denoted by and is by design constrained as follows: $\mathbf{-1 \le r_s \le 1}$ and its

interpretation are similar to that of Pearson; e.g. the closer $\mathbf{r_s}$, is to ±1 the stronger the monotonic relationship. Correlation is an effect size and so researcher can verbally describe the strength of the correlation using the following guide for the absolute value of $\mathbf{r_s}$:

Legend:

.00- .19: "Very weak"

.20 - .39: "Weak"

.40 - .59: "Moderate"

.60 – .79: "Strong"

.80 – 1.0: "very strongly"

The calculation of Spearman's correlation coefficient and subsequent significance testing of it requires the following data assumptions to hold:

Interval or ratio level or ordinal; and monotonically related hence we do have concerns over the normality of our data and should continue with a Spearman's correlation analysis. SPSS produces the following Spearman's correlation output:

Table 20: Correlations Coefficient

			Loan risk Management	**Profitability evolution**
Spearman's Correlation	**Loan risk Management**	Correlation Coefficient	1.000	.708*
		Sig. (2-tailed)	.	.000
		N	56	56
	Profitability evolution	Correlation Coefficient	.708*	1.000
		Sig. (2-tailed)	.000	.
		N	56	56

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

The significant Spearman correlation coefficient value of 0.708 (70.8%) confirms what was apparent from the table; there appear to be a strong positive correlation between the two variables (Loan Risk Management and Profitability of BK). Thus, large values of profitability evolution are associated with large loan risk management values.

Conclusion

The purpose of this research was to analyze the contribution of loan risk management on the profitability of Bank of Kigali. Based on findings for the period 2011-2014, the profitability of BK is presented as follows: Gross Profit Margin were 34.94%, 34.02%, 41.90% and 44.94% respectively in 2011, 2012, 2013 and 2014. The net profit ratio was 34.94%, 34.02%, 41.90% and 36.17% respectively in 2011, 2012, 2013 and 2014.

Returns on Asset were 3.01%, 4.48%, 4.44% and 3.79% respectively in 2011, 2012, 2013 and 2014. Returns on Equity were 14.10%, 4.48%, 26.50 % and 20.45% respectively in 2011, 2012, 2013 and 2014. Returns on Investment were 61.15%, 71.75%, 72.13% and 65.70% respectively in 2011, 2012, 2013 and 2014. In light of this, we can conclude that Bank of Kigali presented an evolution of the profitability during the period of study. The significant Spearman correlation coefficient value of 0.708 confirms that there is a strong and positive correlation between loan risk management and profitability of BK Headquarters. Thus, large values of profitability evolution are associated with large loan risk management values. This is an indication that all the variables of loan risk management were statistically significant in influencing financial performance of BK.

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