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Original Research Article

Risk Management and Employee Efficiency of Quoted Commercial Bank in Nigeria

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Abstract

Firm risk is an unavoidable consequence of being in business such that if properly managed, shareholders' returns would be maximised. However, returns are based on the efficiency of employees' productivity. Thus, this study seeks to investigate the effect of risk management on employees' efficiency of quoted commercial banks in Nigeria for a five-year period from 2012 to 2016. The population of the study comprises of the 15 quoted commercial banks in Nigeria, on which the judgemental sampling technique is applied, based on market capitalisation, to arrive at the sample size of 11 banks. The ex-post facto research design was adopted, and panel data obtained from the audited annual reports and accounts of the sampled banks are analysed using the descriptive statistics, correlation, and multiple regression techniques via STATA 13.0 software. The study found that credit risk management and operational risk management have a significant effect on employees' efficiency, while liquidity risk management and capital risk management have an insignificant effect on employees' efficiency of quoted commercial banks in Nigeria. Therefore, the study concludes that improving the performance of employees in quoted commercial banks in Nigeria would be achieved through continuous policing to advance to use of modern risk management methods that would incorporate all risk areas. Consequently, the study recommends the adoption of just-in-time risk management strategies such as value at risk, risk simulation and risk-adjusted return on equity to mitigate risk and boost performance through improved employee productivity.

Keywords: Risk Management, Employee Efficiency, Revenue per Employee, Quoted Commercial Banks.

JEL Classification Codes: *G42,M65, M76*

1. Introduction

The environment in which business is conductedis always risky, such that taking risk is an inescapable repercussion of being in business (Ojiako, 2012). The ever-changing nature of business activitiesand practices and the extent of regulatory requirements demandedmeans that organisations require a broader and comprehensive view on business risk than ever before. Risk management serves as a control on finance. Thus, it is broadly used to depict different senses in different organisations. Risk management is seen to be the process of identifying, analysing and taking measures to minimise the extent of exposure to loss of financial and non-financial assets by an organisation (Aumann & Dreze, 2004). Various authors including Smithson, Smith, and Wilford (1995) have offered reasons why managers should take active management of risk serious in their business environments. The primary objective of every firm is to maximise expected profits, taking into account its extent of uncertainties. This implies that firms pursue the management of risk in order to avoid low profits, which force them to resort to external investment opportunities. The resultant effect of these external opportunities is sub-optimal investments, which gives rise to lower shareholders' value since the cost of such external finance is higher than the internal funds due to capital market imperfections (Bostander, 2007; Chapelle, Crama, Hubner& Peters, 2004).

Although financial risk management is primary, there is a much broader focus to incorporateoperational risk and reputational risk, including the issue of risk preferences (Stulz, 2003). The openness to risk by firms is driving further improvement of stress testing, and it is further encouraging a sizable volume of investment in information technology and data. Almost universally, risk governance is more central to the management of banks and has much more senior management and board of directors' attention placed on it than was the case before the emergence of the 2008 crisis. When risk is appropriately managed, there is the possibility of improving performance. However, the primary objective of mobilising capital is to facilitate investment, which ensures good operational efficiency. This capital is usually paid back by management and employee efficiency, depending on the evaluation measures (Davidson & Maguire, 2003).

Employees' efficiency is seen to be the fulfilment of employees' obligations, in a such a manner that enables the firm to be liberated from all liabilities. It is a measure ofhow employees of the firm can transform inputs into useful outputs within standard time (Davidson & Maguire 2003). The efficiency of employeesis determined by taking the ratio of turnover/sales revenue to the number of employees in the organisation, thus gaugingthe productivity of employees as a contribution to the overall firm performance (Lewis, 1972). It could be argued that when employees in an organisation are inefficient, productivity would be affected, leading to a reduction in turnover and returns. Thus, to enhance performance, there is theneed to minimise those risks that are capable of limiting employees' efficiency and output. Consequently, studies such as Saeedi and Mahmoodi (2011) and Min-Tsung (2009) opined that it is more appropriate to opt for employees' efficiency rather than financial performance since the latter would not be achieved without the former.

From the preceding, the question remains whether risk components are capable of affecting the extent of employees' efficiency in the firm. Thus, the main objective of this study is to investigate the effect of risk management on the employees' efficiency of quoted commercial banks in Nigeria. Specifically, this study seeks to investigate the effect of credit risk management on employees' efficiency of quoted commercial banks in Nigeria;

examine the relationship between liquidity risk management and employees' efficiency of quoted commercial banks in Nigeria; determine the extent to which operational risk management influence employees' efficiency of quoted commercial banks in Nigeria; and investigate the effect of capital risk management on employees' efficiency of quoted commercial banks in Nigeria.

2. Literature Review

Risk is considered to be the probability of an event occurring that will result in an unexpected effect on the goals of an organisation (Ebenezer & Omar, 2016). Hansel (1999) looked at risk as the likelihood that a loss would occur. Thus, the risk is the happening of events that are capable of influencing the predetermined objectives of a firm, thereby resulting in a loss of resources, financial or otherwise. Risk management involves the various approaches which businesses and individuals adopt to enable them to raise money, as well as allocate same to projects in consideration of the risk factors associated with those approaches (Sarkis, 1998). Management of risk is central to the effectiveperformance of banks such that when the appropriate risk management strategies are incorporated into corporate planning and performance management, there is the likelihood that strategic and operational objectives of the banks would be achieved. However, problems arise in achieving a trade-off between risk and return in order to minimise potential negative effects on performance. Thus, firms are required to put in place more dynamic and sound financial risk management techniques that would ensure improved performance, especially in the ever dynamic and highly competitive banking industry. Good risk management would place the firm in a better position to compete favourably, thus perfecting employees' efficiency to generate growth in profits (Stulz, 1996). This implies that firms with better financial risk management policies and strategies tend to have better performance.

According to Fraser and Simkins (2010) and Stulz (1996), the approach to risk management varies considerably across firms, based on the industry. In some firms, risk management takes the form of complex financial transactions (Pagano, 2001), while in others, it follows a more collective assessment of financial and non-financial risks (Nassauer & Pausenberger, 2000). Also, some firms deal with risk management only by formulating their businesspoliciesto incorporate and ensure compliance with risk limits and policies while, in others, the function helps the organisationto learn about uncertainties in its strategy and its external and competitive environment (Nassauer & Pausenberger, 2000). Stulz (1984) and Froot, Scharfstein and Stein (1993) opined that managers should concern themselves with the active management of risks in their organisations (especially those in the banking industry) to maximise expected profits, taking into consideration uncertainties that abound in their business environments. Different types of risks affect business organisations, which include credit risk, operational risk, liquidity risk, and capital adequacy risk, among others (Ebenezer & Omar, 2016; Kolapo, Ayeni, &Oke, 2012; Hanse, 1999).

Credit risk arises when customers and employees fail to service the loans and advances (principal and interests) and advances granted to them by the banks. According to Sanusi (2010), poorly serviced loans lead to losses that affect the capital base of the banks, which is another component of risk that requires attention. Thus, as more credit facilities are lost in the hands of customers, there is the tendency that the equity of the banks would become vulnerable, which would affect the general operations of the banks, leading to poor performance. As a result, the first and second null hypotheses were developed

linking credit and capital risks to operating efficiency of employees:

Ho_1: Credit risk has no significant effect on employees' efficiency of quoted commercial banks in Nigeria.

Ho_2: Capital risk has no significant effect on employees' efficiency of quoted commercial banks in Nigeria.

Also, liquidity risk is the situation in which banks run a shortage of cash to effectively execute their operational activities and meet the credit needs of their customers (Nwite, 2015; Kolapo, Ayeni, & Oke, 2012). The failure of the banks to meet customers' credit requests would enhance the likelihood of customers losing faith in the banks and withdrawing their customer-ship. This would further compound employee's performance problems since most banks adjudge employee performance by the number and type of customers that the bank gets through the influence of a particular employee. Consequently, the study developed the third null hypothesis to establish a relationship between liquidity risk management and employees' efficiency:

Ho_3: Liquidity risk has no significant effect on employees' efficiency of quoted commercialbanks in Nigeria.

According to Ebenezer and Omar (2016), financial institutions that incorporate risk management strategies into their corporate planning and performance management are more likely to attain strategic and operational objectives. This implies that corporate planning without adequate internal control mechanisms to safeguard assets is capable of increasing the extent to which banks are exposed to loss of assets, which affects operating performance. This leads to the development of the fourth hypothesis in the null form, establishing a relationship between operational risk and employees' efficiency:

Ho_4: Operational risk has no significant effect on employees' efficiency of quoted commercial banks in Nigeria.

This study is anchored on the stakeholder theory, which was developed originally by Freeman (1984), as cited in Smith (1995), as a managerial instrument. The stakeholder theory is based on the assumption that values are exclusively an aspect of doing business such that harmonising the values of all stakeholders becomes the main determinant of corporate policy and strategy. The fact that the firm exists to protect the interest of all stakeholders, it becomes pertinent to note that management must ensure a risk-free business environment to prevent loss of value by stakeholders due to risks. Based on the position of the stakeholder theory, management is required to promote the need for risk management in banks and to reap the benefit of improved firm value. Thus, with a risk-free environment, employees, who are also a stakeholder in the firm, are sure that their value and interest is protected, which would spur them to efficiently execute their obligations in such a manner thatwould lead to growth in the value of the firm.

From the empirical perspective, Alalade, Agbatogun, Abimbola, and Adekunle (2015) investigated the role of credit risk management in the value creation process among commercial banks in Nigeria. It reviews the concepts, theories, legal acts and standards relating to credit risk management and then developed a conceptual model with four antecedents of credit risks (which include loan and advance loss provision, total loan and advances, non-performance loans and total assets) on ROE and ROA. A panel data was obtained from a sample of 10 commercial banks listed on the floor of the Nigerian Stock Exchange (NSE) from 2006 to 2010. The result of the analysis reveals that credit risk management has a significant effect on the financial performance of commercial banks. It was

recommended that maintaining a minimum level of non-performing loans vis-a-vis provision for loans and advances will enhance financial performance through its positive effect on ROE.

Adeusi, Akeke, Adebisi, and Oladuiyoye (2014) examined the relationship between risk management and financial performance of banks in Nigeria from 2006 to 2009. Secondary data were obtained from the annual reports of a sample of 10 banks, and a panel data estimation technique was adopted. The study found an inverse relationship between doubtful loans and financial performance of banks and capital asset ratio was found to be positive and significant. Consequently, the study suggests the need for banks to practice prudent risks management in order to protect the interest of investors and other stakeholders. Similarly, Soyemi, Ogunleye, andAshogbon (2014) studied the effect of risk management practices on the financial performance of Nigerian deposit money bank in the 2012 financial year. Secondary data was gathered from the financial statements of the banks under study, which was analysed using descriptive statistics to depict pattern and robust standard errors OLS regression to estimate significant influence between banks' risk management practices and their financial performance. The findings appear to be mostly consistent with previous works as the explanatory variables (credit; liquidity; operating; and capital risk practices) significantly accounted for variations in financial performance.

In Pakistan, Ahmed, Akhtar, and Usman (2011) conducted a study on risk management practices and Islamic Banks. The authors aimed to determine the firm's level factors which have significantly influenced the risk management practices of Islamic banks in Pakistan. The study concluded that the size of Islamic banks has a positive and statistically significant relationship with financial risks (credit and liquidity risk), whereas its relation with operational risk is found to be negative and insignificant. The asset management establishes a positive and significant relationshipbetween liquidity and operational risk. The debt-equity ratio and non-performing loans (NPLs) ratio have a negative and significant relationship with liquidity and operational risk. In addition, capital adequacy has a negative and significant relationship with credit and operational risk, whereas it is found to be positive and with liquidity risk. The study differs from this study since this study focuses on all the banks and not Islamic banks.

Kithinji (2010) conducted a study on credit risk management and profitability of commercial banks in Kenya using the non-performing loan portfolio (the independent variable) as an indicator of the effectiveness of credit management practices. The intervening variable was the amount of credit as indicated by loans and advances normalised by the total assets. The dependent variable was the profitability measured by the return on total assets. The study concluded that there was no significant relationship between credit risk management (non-performing loan portfolio), amount of credit and profitability. In the same vein, Siba (2012) carried out a study on the relationship between financial risk management practices and financial performance of commercial banks in Kenya (CBK). The study employed a questionnaire method for primary data collection, whereas secondary data were obtained from CBK annual supervision reports. The conclusion was that banks had highly effective risk management practices and there was a strong relationship between the bank's performance and the efficiency of thebank'srisk management practices. The study differs from the current study in that the current study seeks to focus on the relationship between financial risks which include credit, market, capital management, and liquidity risks as opposed to focusing on the risk management

practices of identifying, managing and controlling the financial risks.

Mwangi (2012) conducted a study on the effect of risk management practices on the financial performance of Commercial Banks in Kenya. The objectives of this study were to analysethe risk management practices undertaken by Commercial Banks in Kenya and to determine and assess the effect of these risk management practices on their financial performance using secondary dataobtained from the audited annual reports andaccounts of the banks. The study found that risk management practices are significantly essential to the operations and financial performance of the commercial banking institutions studied. In addition, the study found that some risk management practices do have a significant effect on financial performance more than others, that is, the existence of a risk management policy and the integration of risk management in the setting of organizational objectives were considered to be the key risk management practices that had a direct effect on financial performance.

Similarly, Ogilo (2012) carried out a study that sought to establish the impact of credit risk management on the financial performance of commercial banks in Kenya and to find out if there exists a relationship between credit risk management determinants using CAMEL indicators and financial performance of these banks. The study used secondary data from the CBK publications. Multiple regression analysis was used for data analysis. The study found a strong impact between the CAMEL components on the financial performance of commercial banks. The study alsoestablished that capital adequacy, asset quality, management efficiency and liquidity had a weak relationship with financial performance whereas earnings had a strong relationship with financial performance. The study concluded that CAMEL model couldbe used as a proxy for credit risk management.

Although financial performance is influenced by a combination of factors facing the firm, a review of the literature provides evidence as to why firms should concern themselves with risk management. Vaughan and Vaughan (2008) opined that the primary goal of risk management by firms is to ensure their survival. With effective risk management,it ensures that the business entity continues to exist and will survive in the unforeseeable future. Consequently, this continuity serves as the guarantee that the firm is not prevented from achieving it predetermined goals through losses that might arise from corporate risks. Thus, it is evident that the decisions made by management affect the risks and financial performance of banks, which is a function of management and employees' efficiency. This then emphasises the need for a proper risk management strategy to direct the goals and interests of management to the interests of theentire organisation, which means that management and strategies safeguard the interests of all stakeholders.

3. Methodology

This study adopted an ex-post facto research design and covered a period of 5 years from 2012 to 2016. This period witnessed economic meltdown, subjecting the activities of commercial banks in Nigeriato more risks with the tendency to impair firm efficiency. The population of the study comprised all commercial banks quoted in Nigeria as of the year 2012 and remained quoted up till 31st December 2016. The choice of commercial banks was based on the fact that the banking industry in Nigeria is the most regulated compared to other sectors of the economy. Table I contains the list of quoted commercial banks that constitute the population and sample size of this study, including their years of listing and market capitalisation.

Table I: Population and Sample Size of the Study

S/N	NAME OF BANK	YEAR OF LISTING	CAPITALISATION (NGN)
1	Access Bank Plc.	1998	285,229,800,281.66
2	Diamond Bank Plc.	2005	27,792,466,761.60
3	EcoBank Plc.	2006	322,952,101,384.00
4	Fidelity Bank Plc.	2005	37,087,740,189.44
5	First Bank Holding Plc.	2012	216,089,662,607.84
6	First City Monument Bank Plc.	2013	23,367,198,689.72
7	Guaranty Trust Bank Plc.	1996	1,162,531,579,348.00
8	Skye Bank Plc.	2005	9,299,801,944.70
9	Stanbic IBTC Bank Plc.	2012	388,500,000,000.00
10	Sterling Bank Plc.	1993	29,942,034,851.04
11	United Bank for Africa Plc.	1971	339,213,571,110.70
12	Unity Bank Plc.	1970	6,779,816,006.36
13	Union Bank of Nigeria Plc.	2005	101,614,838,826.00
14	Wema Bank Plc.	1991	20,444,467,023.46
15	Zenith Bank Plc.	2004	770,155,992,570.58

Source: www.nse.com.ng/issuers/listed-securities/listed-companies.

The judgemental sampling technique was adopted for the study based on the market capitalisation of the banks. Consequently, First City Monument Bank Plc, Skye Bank Plc, Unity Bank Plc and Wema Bank Plc were eliminated from the study by limited capitalisation of less than NGN25 Billion, which is the regulatory benchmark. This implied ineffective capital risk management, which may be a function of other risk areas. Therefore, the sample size of eleven (11) quoted commercial banks in Nigeria was used for the analysis.

The source of data for this study was the annual report and accounts of the sampled quoted commercial banks in Nigeria. Data that was obtained from this source include profit after tax, total assets, shareholders' equity, non-performing loans, total loans and advances, liquid assets, qualifying liabilities, operating expenses, gross earnings/revenue, and some employees of the quoted commercial banks in Nigeria. These were used to calculate the ratios that proxy the variables of the study. The dependent variable for the study was employee efficiency, which was proxied by revenue per employee. On the other hand, the independent variable was risk management,and it was expressedregarding credit risk management, liquidity risk management, operational risk management and capital risk management. Also, the size of the quoted commercial banks in Nigeria, measured by the natural logarithm of total revenue, was introduced as a control variable. The measurements of these variables were presented in Table II.

Table II: Definition and Measurement of Variables

S/N	VARIABLE	DEFINITION	MEASUREMENT
1	**Dependent Variable:**		
	Revenue per Employee (REVPE)	REVPE refers to the contribution each employee has made to the revenue of the organisation (Yunusa & Orshi, 2016; Davidson & Maguire, 2003)	Total Revenue / Number of Employee.
2	**Independent Variables:**		
	Credit Risk (CRR)	CRR is the risk that a firm may not be able to recover the loans and advances granted to its customers (Central Bank of Nigeria [CBN], 2014).	Non-performing Loans / Total Loans and Advances.
	Liquidity Risk (LIQR)	LIQR is the risk that a firm is not able to settle its maturing obligations as at when due (CBN, 2014).	Cash and Cash Equivalent / Total Assets.
	Operational Risk (OPR)	OPR is the risk that the operations of a firm will lead to loss of assets (CBN, 2014).	Operating Expenses / Gross Earnings.
	Capital Risk (CAPR)	CAPR is the proportion of a bank's own equity in relation to its risk exposure. It is basically the portion of the bank's tier 1 and tier 2 equity (Qualifying Capital or Equity) as a percentage of its risk weighted assets (Loans) (CBN, 2014).	Equity / Total Assets.
3	**Control Variable:**		
	Firm Size (SIZE)	SIZE is measured in terms of total revenue of the firm.	Natural logarithm of the total revenue.

The study adopted the descriptive statistics, correlation and multivariate regression techniques for data analysis. The regression model of the study was stated as:

$Y_{it} = \alpha + \beta_0 X_{it} + e_{it}$……1

Where: Y_{it} = Dependent variable of firm ì for period t;

α = Constant;

β_0 = Coefficient of the independent variables;

X_{it} = Explanatory variables of firm ì for time period t;

e_{it} = Error term of firm ì for time period t.

Based on the variables of the study, the following functions were developed:

Y_{it} = f (REVPE) …….... (1)

X_{it} = f (CRR, LIQR, OPR, CAPR, SIZE) ……..…….. (2)

Substituting the above functions into model 1, the following model was developed:

$REVPE_{it} = \alpha + \beta_1 CRR_{it} + \beta_2 LIQR_{it} + \beta_3 OPR_{it} + \beta_4 CAPR_{it} + \beta_5 SIZE_{it} + e_{it}$ ..... (2)

Where: $REVPE_{it}$ is revenue per employee of firm i for period t; CRRit is credit risk of firm i for period t; LIQRit is liquidity risk of firm i for period t; OPRit is operating risk of firm i for period t; CAPRit is capital risk of firm i for period t; and SIZEit is the size of total assets of firm i for period t.

The study adopts the Statistic/Data Analysis (STATA) software to execute data analysis with the a priori expectation that $\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$, $\beta_4 < 0$ and $\beta_5 > 0$. Also, three diagnostic tests were conducted to test the fitness of the model, which included tests for multicollinearity, data normality, and heteroscedasticity.

4. Results and Discussion

This section of the study presents the results and discussion of the descriptive statistics, correlation, and regression analysis. It also includes the results of the robustness tests conducted for the study. The result of the descriptive statistics is presentedin Table III.

Table III: Descriptive Statistics

VARIABLE	MEAN	STD. DEV.	MIN.	MAX.	OBS.
REVPE	17030.23	23766.65	0.2298371	89044.29	55
CRR	434.672	2221.077	0.0040478	16100.73	55
CAPR	0.087088	0.1902113	0.0000193	1.00	55
LIQR	0.1317223	0.2334274	0.0000153	1.414956	55
OPR	1516.519	6422.594	0.0006901	39031.2	55
SIZE	6.369962	1.602034	3.09691	8.795881	55

Source: STATA 13.0 Output, 2017.

Table III shows the summary of the descriptive statistics for the dependent and independent variables, which are REVPE= Revenue per Employee, CRR= Credit Risk, LIQR= Liquidity Risk, OPR= Operational Risk, CAPR = Capital Risk and SIZE = Firm Size respectively. Although LIQR, CAPR, and SIZE have an acceptable standard deviation of less than 2, that is 0.2334274, 0.1902113 and 1.602034 respectively, REVPE, CRR and OPR reported higher standard deviations of 23766.65, 2221.077 and 6422.594 respectively. These high standard deviations indicate the variation in size and maturity of the sampled quoted commercial banks in Nigeria, which is further explained by their mean values of N17,030.23 per employee, 43467.2% and 151651.9% respectively. Consequently, the inclusion of firm size as a control variable in the model is justified. The high mean REVPE explains the magnitude of how employees are effectively utilised to maximize revenue by the banks, while that of CRR and OPR indicates that the sampled commercial banks are prone to high credit and operational risks, owing to the volumes of credit and high expenses required to sustain the demands of customers and operations of the banks respectively.In addition, the mean values of 0.1317223 and 0.087088 for LIQR and CAPR respectively, reported in Table III indicate that the commercial banks hold less cash and cash equivalent as compared to their total assets and that they depend more on debt than equity in the financing of total assets, which is capable of impairing short-term liquidity and capital adequacy hence indicating risky nature of investment in these firms.

The degree of association between the variables of the study is presented in the correlation matrix in Table IV.

Table IV: Correlation Matrix

VARIABLE	REVPE	CRR	CAPR	LIQR	OPR	SIZE
REVPE	1					
CRR	-0.1171	1				
	"0.3945"					
CAPR	*0.3139*	-0.0879	1			
	"0.0196"	"0.5234"				
LIQR	-0.0295	-0.1071	0.0033	1		
	"0.8309"	"0.4366"	"0.9810"			
OPR	-0.1723	-0.0459	-0.1096	*0.4073*	1	
	"0.2085"	"0.7338"	"0.4255"	*"0.0020"*		
SIZE	*0.8531*	-0.1022	*0.4493*	-0.1793	*-0.4433*	1
	"0.0000"	"0.4580"	*"0.0005"*	"0.1902"	*"0.0007"*	

Source: STATA 13.0 Output, 2017.

The result of the correlation matrix on Table IV shows that credit risk, liquidity risk, and operational risk are negatively associated with employee efficiency at the coefficients of -0.1171, -0.0295 and -0.1723, which are insignificant at the p-values of 0.3945, 0.8309 and 0.2085 respectively. This implies that there is a negative correlation between revenue per employee and credit risk, liquidity risk and operational risk, which agrees with the a priori expectation of the study that $\beta_1<0$, $\beta_2<0$ and $\beta_3<0$. However, capital risk and firm size have a positive relationship with employee efficiency at the coefficients of 0.3139 and 0.8531, which are significant at the p-values of 0.0196 and 0.0000 respectively. This indicates that capital risk and firm size positively correlate with employee efficiency, which disagrees with the a priori expectation that $\beta_4<0$, which means that $\beta_5>0$.

The study conducted some diagnostic tests to ensure that the data collected fit the model of the study. These include tests for data normality, multicollinearity,and heteroscedasticity. The Skewness/Kurtosis test for normal data was conducted to test the null hypothesis that data for the study variables are abnormally distributed at 0.05 levels of significance. The result of the test is presented in Table V.

Table V: Result of the Skewness/Kurtosis Test for Data Normality

VARIABLE	OBS	Pr (SKEW)	Pr (KURT)	ADJ. Chi2	Pr (Chi2)
REVPE	55	0.0009	0.3091	10.02	0.0057
CRR	55	0.0000	0.0000	0.00	0.0000
CAPR	55	0.0000	0.0000	53.58	0.0000
LIQR	55	0.0000	0.0000	55.22	0.0000
OPR	55	0.0000	0.0000	52.17	0.0000
SIZE	55	0.9437	0.0000	15.79	0.0004

Source: STATA 13.0 Output, 2017.

Table V shows that the p-values of the adjusted Chi^2 for REVPE, CRR, LIQR, OPR, CAPR, and SIZE are significant at less than 1% levels of significance. As a result, the study accepts the null hypotheses that the data for REVPE CRR LIQR OPR CAPR and SIZE are abnormally distributed and rejects the alternative hypotheses that the data are normally distributed.

The study conducts the variance inflation factor test to check for multicollinearity among explanatory variables. The result of the test is presented in Table VI

Table VI: Result of Variance Inflation Factor (VIF)

VARIABLE	VIF	1/VIF
CRR	1.03	0.968841
LIQR	1.21	0.823742
OPR	1.46	0.68545
CAPR	1.27	0.784698
SIZE	1.58	0.632827
MEAN VIF	1.31	

Source: STATA 13.0 Output, 2017.

Table VI shows that the VIF for CRR, LIQR, OPR, CAPR, SIZE and the mean VIF are slightly above 1.00 and less than 10.00. In addition, the tolerance levels (1/VIF) are higher than ten percent (0.10). This implies that there is the absence of perfect multicollinearity among the explanatory variables of the study.

The heteroscedasticity test is conducted to test the null hypothesis that there is an absence of heteroscedasticity among the study variables, at 5% level of significance. The result of hettestis presented in Table VII.

Table VII: Heteroscedasticity and Hausman Specification Tests

TEST	STATISTIC	P-VALUE
Hettest Chi2	13.71	0.0002
Hausman Specification Chi2	121.17	0.0000

Source: STATA 13.0 Output, 2017.

Table VII shows the hettest Chi^2 of 13.71 for fitted values of REVPE, which is significant at the p-value of 0.0002, which indicates the presence of heteroscedasticity. Similarly, the Hausman specification test shows the Chi^2 of 121.17, which is significant at the p-value of 0.0000, which indicates that the fixed effect robust generalised least square (GLS) regression is more suitable for fitted values REVPE. Therefore, the result of the GLS regression is presented in Table VIII.

Table VIII: Regression Result for Fitted Values of REVPE

VARIABLE	COEFFICIENTS	T-STATISTIC	P-VALUE
CONS	-121195.6	-10.17	0.000
CRR	0.3751482	3.26	0.009
LIQR	1530.27	0.81	0.434
OPR	0.6169961	11.59	0.000
CAPR	4659.155	1.73	0.113
SIZE	21431.8	11.46	0.000
R SQUARE:	WITHIN = 0.8790		
	BETWEEN = 0.8026		
	OVERALL = 0.7580		
F (5, 10)		40.01	
P-VALUE		0.0000	
REVPE = -121195.6 + 0.3751482 CRR + 1530.27 LIQR + 0.6169961 OPR + 4659.155 CAPR + 21431.8 SIZE + e			

Source: STATA 13.0 Output, 2017.

Table VIII shows the adjusted R^2 of 0.7580, which shows the proportion of the total variation in the dependent variable explained by the independent variables collectively. This implies that 75.80% of variations in REVPE of listed commercial banks in Nigeria is explained by organisational risk management activities of the banks, which is a composition of credit risk, liquidity risk, operational risk, capital risk and the size of the banks, while 24.20% of the variations are explained by other factors not incorporated in the study. This is an implication that changes in the risk management decisions of the banks will affect their revenue per employee. The F-statistic of 40.01, which is statistically significant at the p-value of 0.0000, implies the fitness of the model of the relating the components of organisational risk with revenue per employee of the sampled listed commercial banks in Nigeria, giving a more than 99.9% probability that the relationship between the variables is not a result of chance. The result of the fixed effect robust GLS regression in Table VIII was used to test the hypotheses of the study as follows:

H_1: Credit risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria.

Credit risk measured by the ratio of non-performing loans to total loans and advances shows a t-test statistic of 3.26 with the p-value of 0.0090. This shows that credit risk is significantly associated with revenue per employee. This indicates that credit risk influences employees' efficiency of listed commercial banks in Nigeria such that the higher the inability of the banks to recover loans and advances granted to customers, the higher the effect on the degree of efficiency of their employee. Therefore, the study accepts the alternative hypothesis, which states that credit risk has a significant effect on employee efficiency of quoted commercial banks in Nigeria and rejects the null hypothesis that credit risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria. This finding agrees with that of Alalade, Agbatogun, Abimbola and Adekunle (2015) and Soyemi, Ogunleye, and Ashogbon (2014), who also found a significant relationship between credit risk management and financial performance.

H_2: Capital risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria.

Capital risk is measured as the ratio of shareholders' equity to total assets. It shows a t-test statistic of 1.73, which is insignificant at the p-value of 0.1130. This shows that capital risk is insignificantly associated with revenue per employee, meaning that as the proportion of the banks'

equity in relation to their risk-weighted assets changes, it affects employees' efficiency of listed commercial banks in Nigeria, although insignificantly. Thus, the study accepts the null hypothesis that capital risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria and rejects the alternative hypothesis that capital risk has a significant effect on employee efficiency of quoted commercial banks in Nigeria. This finding is in line with that of Adeusi, Akeke, Adebisi and Oladuiyoye (2014) and Soyemi, Ogunleye and Ashogbon (2014), who also found a significant relationship between capital risk management and financial performance.

H_3: Liquidity risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria.

This study measured liquidity risk as the ratio of cash and cash equivalents to total assets. Table VIII shows the liquidity risk t-test statistic of 0.81, which is insignificant at the p-value of 0.4340. This implies that liquidity risk is insignificantly associated with revenue per employee. This indicates that as the quoted commercial banks in Nigeria are unable to settle their maturing obligations as they fall due, it will affect the efficiency of their employees, although insignificantly. As a result, the study accepts the null hypothesis that liquidity risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria and rejects the alternative hypothesis that liquidity risk has a significant effect on employee efficiency of quoted commercial banks in Nigeria. This is in agreement with Ogilo (2012), who found that liquidity risk has a weak association with financial performance. However, this finding disagrees with that of Soyemi, Ogunleye, and Ashogbon (2014), who found a significant relationship between liquidity risk management and financial performance.

H_4: Operational risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria.

Operational risk, proxied by the ratio of operating expenses to gross earnings shows a t-test statistic of 11.59 with the p-value of 0.0000, which means that operational risk has a significantassociation with revenue per employee. This implies that as there is a high probability that the operations of the banks will result in loss of assets, it will affect the output of the employees. Consequently, the study accepts the alternative hypothesis, which states that operational risk has a significant effect on employee efficiency of quoted commercial banks in Nigeria and rejects the null hypothesis that operational risk has no significant effect on employee efficiency of quoted commercial banks in Nigeria. This finding agrees with that of Soyemi, Ogunleye, and Ashogbon (2014), who found a significant relationship between liquidity risk management and financial performance.

5. Conclusion and Recommendations

Based on the analysis conducted, the study found that credit risk management and operational risk management significantly affects employees' efficiency of quoted commercial banks in Nigeria on the one hand. Thus, the study concludes that improving the performance of employees in quoted commercial banks in Nigeria would be achieved through continuous policing to advance to use of modern risk management methods that would adequately incorporate credit and operational risk areas. On the other hand, liquidity risk management and capital risk management insignificantly affects employees' efficiency of quoted commercial banks in Nigeria. Therefore, the study concludes management of quoted commercial banks in Nigeria would enhance the performance of their employees through effective management of other employee-related risk areas rather than through liquidity and capital risks management. Consequently, the study recommended that

the management of quoted commercial banks in Nigeria should always adopt just-in-time strategies to risk management such as value at risk, risk simulation and risk-adjusted return on equity to mitigate employee-related risks and boost performance through improved employee productivity.

References

Adeusi, S.O., Akeke, N.I., Adebisi, O.S., & Oladunyoye, O. (2014). Risk Management and Financial Performance of Banks in Nigeria.*European Journal of Business and Management,* 6(31), 336 – 342.

Ahmed, N., Akhtar, M. F., & Usman, M. (2011). Risk Management Practices and Islamic Banks: An Empirical Investigation from Pakistan. *Interdisciplinary Journal of Research in Business,* 1 (6), 50 – 57.

Alalade, S.Y., Agbatogun, T., Abimbola, C., & Adekunle, O. (2015). Credit Risk Management and Financial Performance of selected Commercial Banks in Nigeria. *Journal of Economic and Financial Studies,* 3 (1), 1 – 9.

Aumann, R. J., & Dreze J. H. (2004). *Assessing Strategic Risk.* Jerusalem: The Hebrew University of Jerusalem.

Bostander, D. E. (2007). *Operational Risk Events in Banks and Practices for Collecting Internal Loss Data.* AnUnpublished Research Project, Graduate School of Business Leadership, University of South Africa.

Central Bank of Nigeria (2014). *Guidance Notes on Regulatory Capital.* Retrieved from https://www.cbn.gov.ng/out/2015/bsd/1.revisedguidancenotesonregulatorycapital.pdf

Chapelle, A., Crama, Y., Hubner, G., & Peters J. (2004). *Basel II and Operational Risk: Implications for risk measurement and management in the financial sector.* Belgium: National Bank of Belgium Working Papers - Research Series.

Davidson, R.A., & Maguire, M.G. (2003). Top common causes of construction contractor failures. *Journal of Construction Accounting and Taxation* 11, 234 - 235.

Ebenezer, O.O., & Omar, W.A.B. (2016). Risk Management and Financial Performance of Commercial Banks in Nigeria: A Literature Review Revisited. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 7 (2), 14 – 19. DOI: http://dx.doi.org/10.9790/5933-0702031419.

Froot, K., Scharfstein, D., & Stein, J. (1993). A Framework for Risk Management. *Journal of Applied Corporate Finance,* 7, 22-32.

Hansel, D.H. (1999). Elements of Insurance. London: Periodic Publications.

Kithinji A. M. (2010). *Credit Risk Management and Profitability of Commercial Banks in Kenya.* An Unpublished MBA Project, School of Business, University of Nairobi, Kenya.

Kolapo, T.F., Ayeni, R.K., & Oke, M.O. (2012). Credit Risk and Commercial Banks' Performance in Nigeria: A Panel Model Approach. *Australian Journal of Business and Management Research*, 2 (2), 31 – 38.

Lewis, R. (1972). *An Enquiry into the Informational Needs of Stockholders and Potential Investors.* An Unpublished Dissertation, Arizona State University.

Min-Tsung, C. (2009). Relative Effects of Debt and Equity on Corporate Operating Performance: Quartile Regression Study in Taiwan. *International Journal of Management,* 26 (1), 143 – 150.

Mwangi, K. A. (2012). *The effect of risk management practices on the Financialperformance of commercial banks in Kenya.* An Unpublished MBA Project,University of Nairobi, Kenya.

Nassauer, H., & Pausenberger, P. (2000). Personality and Domain Specific Risk

Taking. *Journal of Risk Research,* 2, 157–176.

Nwite, C.S. (2015). Risks and Liquidity Management Issues in Nigerian Banks. *Issues in Business Management and Economics,* 3 (5), 81 – 86.

Ogilo, F. (2012). The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Kenya. *DBA Africa Management Review,* 3 (1), 22-37.

Ojiako, U. (2012), Examining Thematic Elements in Strategic Business Risk. *Management Research Review,* 2,90 – 105.

Okotha, H. (2003). Corporate Risk Management: Costs and Benefits. *Global Finance Journal,* 13(1), 29-38.

Pagano, M.S. (2001). How Theories of Financial Intermediation and Corporate Risk Management Influence Bank Risk-taking Behaviour. *Financial Markets, Institutions and Instruments,* 10 (5), 277-323.

Fraser, J. & Simkins, B.J. (2010). *Enterprise Risk Management: Today's leading Research and Best Practices for Tomorrow's Executives.* New Jersey: John Wiley & Sons, Inc.

Saeedi, A., & Mahmoodi, I. (2011). Capital Structure and Firm Performance: Evidence from Iranian Companies. *International Research Journal of Finance and Economics,* 70 (11), 20 – 29.

Sanusi, L.S. (2010). *The Nigerian Banking Industry: What went wrong and the way forward*. Kano: Text of Convoction Lecture delivered at Bayero University, Kano.

Sarkis, J. (1998). Evaluating Environmentally Conscious Business Practices. *European Journal of Operational Research,* 107, 59-174.

Siba, M.A. (2012). *The relationship between Financial Risk Management and Financial Performance of Commercial Banks in Kenya.* An Unpublished MBA Project, University of Nairobi, Kenya.

Smith, W. (1995). Corporate Risk Management: Theory and Practice. *The Journal of Derivatives,* 2, 21-30.

Smithson, K., Smith, H., & Wilford, L. (1995). *The Ultimate Risk Manager.* Boston: CUSP Communications Group Inc.

Soyemi, K.A., Ogunleye, J.O., & Ashogbon, F.O. (2014). Risk Management Practices and Financial Performance: Evidence from the Nigerian Deposit Money Banks (DMBs). *The Business and Management Review,* 4 (4), 345 – 354.

Stulz, R.M. (1984). Optimal Hedging Policies. *Journal of Financial and Quantitative Analysis,* 19, 127-140.

Stulz, R.M. (1996). Re-thinking Risk Management. *Journal of Applied Finance,* 9 (3), 8-24.

Stulz, R.M. (2003). *Risk Management and Derivatives.* South-Western Ohio: Mason.

Vaughan, E.J., & Vaughan, T.M. (2008). *Fundamentals of Risk and Insurance (10th Ed.).* New Jersey: John Wiley & Sons, Inc.

Yunusa, A., & Orshi, T.S. (2016). Solvency and Employee Efficiency of Listed Conglomerate Firms in Nigeria. *Journal of Research in Business and Management,* 4 (10), 40 – 48.