



Effect of Enterprise Risk Management (ERM) on Sustainability and Survival of Banks in Nigeria

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Abstract

Beyond question, risk management is the surviving engine to which enterprises are built upon for sound organizational sustainability. Thus, this study assessed enterprise risk management and its effect on sustainability and survival of deposit money banks in Nigeria. The study utilized Survey research design, a non probability judgment sample of 111 participants extracted from 16 deposit money banks in JOS north local government of plateau state responded to a re-validated 5 points Likert scale questionnaire. Data were analyzed using quantitative techniques and multiple regression analysis with aid of SPSSv23 to test the hypotheses. The result found significant relationship between ERM and bank sustainability and survival indicators. To this effect, the study recommended that for a better opportunity to remain relevant and financially successful it is imperative for deposit money banks to readjust their strategic financial plans; increase their income diversification base to combat adverse impacts of risks and uncertainty in business transactions; more so, to keep up with global trends, banks should not underestimate the role sound administration and financial management play in reducing attendant cost and forestalling future financial crisis.

Keywords: Enterprise risk management (ERM), Sustainability, Survival, Banks.

JEL Classification: M00, M19, G00.

Citation | Orabueze, Uchechukwu Ebuka; Agbaji, Joseph Simon; Iyodo, Baba Yaro (2020). Effect of Enterprise Risk Management (ERM) on Sustainability and Survival of Banks in Nigeria. Asian Journal of Social Sciences and Management Studies, 7(3): 250-257.

History:

Received: 2 June 2020

Revised: 10 July 2020

Accepted: 12 August 2020

Published: 7 September 2020

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Publisher: Asian Online Journal Publishing Group

Acknowledgement: All authors contributed to the conception and design of the study.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no conflict of interests.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study was reported; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.

Ethical: This study follows all ethical practices during writing.

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Contribution of this paper to the literature:

This study assessed enterprise risk management and its effect on sustainability and survival of deposit money banks in Nigeria.

1. Introduction

The advocacy of ERM in banks centers on managing the objectives of banking business. These objectives are categorized into three; to successfully mobilize the desired capital that will sustain current business and future expansion opportunities, secondly, to maximize returns on investment (ROI) given the risk inherent in every transaction; lastly, to sustain the bank capital adequacy and statutory risk governance enacted by authorities and rating agencies. Without question, the role Enterprise risk management play in profit maximization and Survival of Banks and any other company is indispensable. Gates, Nicolas, and Walker (2012) averred that strategic risk management enhances management and improves organizational performance by leading to consensus among management and strengthening decision making and accountability. Enterprise risk management increases risk awareness and subsequently increases knowledge that leads to sound decision making throughout the organization (Kleffner, Lee, & McGannon, 2003). Enterprise Risk Management (ERM) as a discipline has received both local and international attention in recent years (Arena, Arnaboldi, & Azzone, 2010). The growing interest in Enterprise Risk Management has been attributed to a considerable numerous challenges ranging from global financial crises, corporate frauds etc. In Nigeria, banking sector in their operations are exposed to arrays of impediments; they range from liquidation, exchange rates fluctuations, inflationary tendencies and other problems prominent in the industry. According to Paape and Speklè (2012) the aforementioned has prompted governments, law making bodies, regulators and other stakeholders within the global economic community to explore further insight and understanding of current and emerging risks facing organizations.

In the search for sustainability and survival of deposit money banks, there is a great concern as to the extent to which banks mitigaterisk. One could argue that bank sustainability and survival indicators such as strategic and financial plan, income diversification scheme and sound administration and financial management of banks have not been met satisfactorily. In fact, M. Beasley, Branson, and Hancock (2010) surmise that Banks still need a readjustment of their internal processes to accommodate the requirement for ERM assessment. Aside the complexity of bank transactions which Kerstin et al. 2014 described as dynamic changes or volatility, ambiguity of cause and effects of risks, uncertainty and disarrays surrounding banking institutions, other leading source of problems threatening the sustainability and survival of deposit money banks in Nigeria can be attributed to insufficient resources available to meet bank objectives, high dependency on a single stream of income and inadequate provision for training of staff and risk officers. Thus, there is an urgent need to identify, assesses and manage various individual risks inherent in the day to day operations of banks. Professionals in the discipline of risk management surmise that financial crisis faced by banks and other financial institutions emanated from the failure of the corporate world to embrace ERM globally, suggesting that the acceptance and implementation of ERM may forestall reoccurrence (Senior Supervisors Group, 2009). In addition, most Nigerian banks still finds it difficult to embed risk appetite. It is envisaged that it will take longer for Nigerian banks to completely integrate with the current international trend in risk management Chris and Orok (2017). The reasons are not farfetched as most of the banks have not completely implemented bank-wide risk management as such the need to institutionalize ERM in the banking industry translates to the fact that each components of risk must be treated collectively. A major step taken in this direction is a paradigm shift from silo-based risk management to a holistic approach to risk management commonly known as enterprise risk management (Gordon, Loeb, & Tseng, 2009; Hoyt & Liebenberg, 2011). In line with this, a number of firms and rating agencies have adopted and integrated Enterprise Risk Management analysis into their credit rating processes, regulatory agencies have adopted risk based regulations built on the principles of enterprise risk management with specialized enterprise risk management units created by numerous consulting firms.

Prior studies pertaining to enterprise risk management and sustainability of deposit money banks in Nigeria are limited, with numerous research uncovering enterprise risk management and performance of banks (Muteti, 2014; Nyagah, 2014; Yegon, 2015). However, none of these studies examined enterprise risk management on sustainability and survival of banks in Nigeria, adopting financial sustainability models developed by León (2001). Therefore, it is on the premise of this gap, that the present paper seeks to assess Enterprise risk management and its effects on sustainability and survival of deposit money banks in Nigeria adopting model developed by León (2001) as indicators to bank sustainability and survival.

The general objective of this study is to assess empirically the effect of enterprise risk management on sustainability and survival of deposit money banks in Nigeria. The scope of the study is constrained to all the deposit money banks in existence within the period of 2014-2019 in Nigeria. Specific objectives are, thus;

1. To determine the effect of Enterprise risk management on strategic and financial planning of deposit money banks.
2. To investigate the effect of Enterprise risk management on income diversification of deposit money banks.
3. To examine the effects of Enterprise risk management on sound administration and finance of deposit money banks.

The following sub research questions are intended to sharpen the focus of the problem and are deduced from the above objectives:

1. To what extent does Enterprise risk management influence strategic and financial planning of deposit money banks?
2. To what extent does Enterprise risk management affect income diversification of deposit money banks?
3. To what extent does Enterprise risk management affect sound administration and finance of deposit money banks?

Taking cognizance of the research objective together with the research question, the following hypothesis will be tested for the study;

H0: Enterprise risk management has no significant effect on strategic and financial planning of deposit money banks.

H0: Enterprise risk management has no significant effect on income diversification of deposit money banks.

H0: Enterprise risk management has no significant effect on sound administration and finance of deposit money banks.

2. Literature Review

2.1. Conceptual Framework

The concept of risk can be said to as the possibility of loss or exposure to loss, a hazard and uncertainty. Holistic risk management can be viewed as a paradigm shift, in which senior executives and management realign organizational risk management (Gordon et al., 2009). Rochette (2009) maintained that due to the changing risk environment, any strategic risk management approach must cover a range of projects, processes, products, and services. Risk management helps make the presence of risk in a firm's environment much clearer and more apparent, and management decides on the course of action based on the acceptability of each risk (Dia & Zéghal, 2008; McShane, Nair, & Rustambekov, 2011; Razali & Tahir, 2011). According to Brown, Steen, and Foreman (2009) ERM is the method and the process organizations use to management risk, seize opportunities, and achieve objectives. De Loach (2000) also defined it as a disciplined approach to align strategy, processes, people, technology, and knowledge, with the purpose of evaluating and managing uncertainty to create value. In the same vein, Gordon et al. (2009) define ERM as the overall process of managing an organization's exposure to uncertainty with particular emphasis on identifying and managing the events that could potentially prevent the organization from achieving its objective. In this study, Gordon et al. (2009) definition will be adopted. Historically, risk management attempts to minimize the cost of risk through transfer, reduction, retention or avoidance of a risk exposure while an ERM program attempts to optimize firm risk in order to maximize value. ERM is hypothesized to add value by enabling risk quantification and optimization and increasing efficiency (Nocco & Stulz, 2006).

2.2. Sustainability and Survival of Banks In Nigeria

Sustainability should be considered not only as an emerging area of risk, but also as an agenda of the firm's strategic management (Narumon, 2013). According to the African Institute of Corporate Citizenship (2004), "Sustainability is about ensuring long term business success, while contributing to society's present and future social, environmental and economic needs. In line with this, Bouma, Jeucken, and Kilkers (2001) viewed Sustainable banking as a decision by banks to provide products and services only to customers who take into consideration the environmental and social impacts of their activities. Sustainability and of survival of an organization is viewed from the standpoint of its operations by considering the profit generated by its resources. The rationale behind the adaptation of sustainability and survival from operations is that this performance is within the reach of managers to control. León (2001) enumerated 3 sustainability and survival pillars adopted by banks worldwide; strategic and financial planning, Income diversification and sound administration and finance.

Therefore as organizations grow in an emerging market like that of Nigeria, it takes on an increasing number of activities and runs the risk of focusing on day to day management issues, losing sight of long range objectives. Strategic planning is the mechanism to help clarify an organization's mission and objectives as well as prioritize the actions needed to accomplish them. Effective financial planning has become a prerequisite for enterprise risk management in Nigeria. The role of the financial plan in ERM is to determine if the organization is going to have sufficient resources available in the medium term to meet the objectives described in the strategic plan. The financial plan operates on the basis of scenarios, ranging from the minimum feasible to the ideal. The second pillar of financial sustainability is income diversification. It refers not only to internal income generation, but also to the number of income sources that serves as banks main funding. Boas (2012) viewed income diversification to include a number of activities that reduces the bank dependence on a single stream of income. For sustainable growth, deposit money banks must not rely so much on a particular income source if it must achieve effectual risk management.

Lastly, sound administration and finance practices involves the process of managing the present and future of bank resources and determining how it strategic plan will be financed (León, 2001; Lewis, 2011). A good strategic financial management practice ensures that banks are able to secure long term funding from it day to day operation. Lewis (2011); León (2001) further stressed the need for bank to manage their finances and have a long term sustainable financial plan, this is because the business environment is changing so fast and the demand on bank are increasing due to several factors.

2.3. Effect of Enterprise Risk Management on Sustainability and Survival of Banks in Nigeria

Clearly, ERM and sustainability are interrelated. Doyle, Hughes, and Glaister (2009) surmised that risk management provides an operational mechanism ensuring ethical and sustainable decision-making. Enterprise wide risk management also increases risk awareness and subsequently increases knowledge that leads to sound decision making throughout the organization (Kleffner et al., 2003). It is necessary to employ a wide range of control mechanisms, such as risk management. As a management control system, the purpose of ERM is to help an organization achieve sustainable outcomes. In the same vein, an effective ERM program is essential for good corporate governance and sustainable development of an organization in Nigeria. Corporate scandals and diminished confidence in financial reporting among investors and creditors have renewed corporate governance as an acme-of-mind priority for boards of directors, management, auditors, and stakeholders. In Nigeria, there is an extremely upturn in the number of banks trying to manage risks. Thus, it is of great concern for banks to effectively integrate enterprise risk management with sustainability and survival.

No doubt the effect of Poor management of risk by insurance firms could lead to accumulation of claims from the clients and in turn could result to an increased organisational loss and weak financial performance. But by extension such piled up leverages also influence deposit money banks particularly in Nigeria (Magezi, 2003). With the capabilities inherent in enterprise risk management, management attain the entity's performance and profitability targets and in turn resulting to sustainability and prevent loss of scarce resources. Enterprise risk management helps an entity get to where it wants to go and avoid pitfalls and surprises along the way (Nocco &

Stulz, 2006). Enterprise risk management helps ensure effective reporting and compliance with laws and regulations, and helps avoid damage to the entity's reputation and associated consequences. Lastly, enterprise risk management delivers a current, credible understanding of the risks unique to an organization across a broad spectrum that includes all types of risk (credit risk, operational risk, market risk, liquidity risk and trading risk), lines of business and other key dimensions.

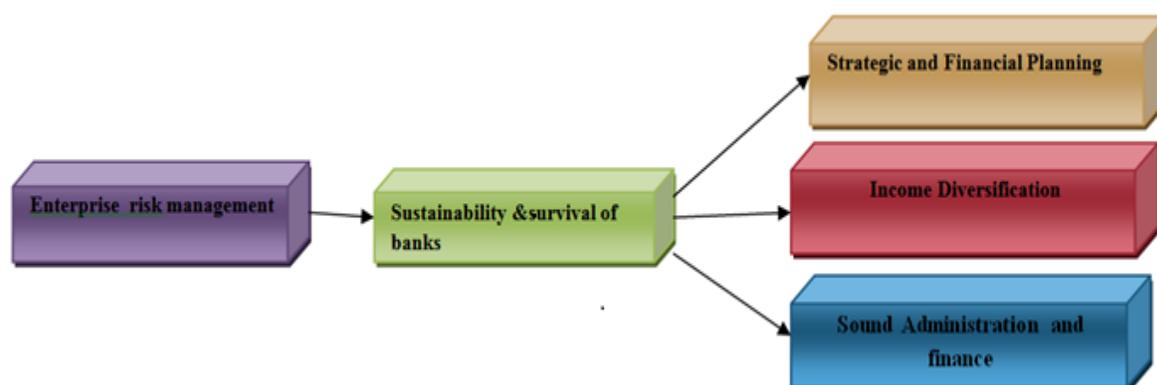


Diagram 1. The conceptual model of enterprise risk management and its effect on the sustainability and survival of deposit money banks in Nigeria.

The proposed model seeks to determine whether enterprise risk management has a significant effect on strategic and financial planning, income diversification and sound administration and finance of banks in Nigeria.

2.4. Theoretical Framework

Capital asset pricing model (CAPM) is an established theory in relation to enterprise risk management and bank sustainability and survival.

2.5 Capital Asset Pricing Model (CAPM)

CAPM model which represents an extension and better simplification of the model put forward by Markowitz (1952) which was at the forefront of theorizing a model on the relationship between return and risk. The Capital Asset Pricing Model states that all investors will hold the same efficient portfolio (the market portfolio) regardless of their individual risk preferences. In drawing a relationship on risk management on sustainability, Gossy (2008) further confirms that CAPM is capable of determining the market price for risk and appropriate risk measure for a single asset.

2.6. Empirical Framework

Several studies, Yegon (2015) studied the effect of ERM determinants on financial performance of NSE listed firms in Kenya. Similarly, Nyagah (2014) undertook the study on the effect of enterprise risk management on financial performance of Pension Fund Management in Kenya. Both studies uncovered that there is a positive relationship between the adoption of risk management practices and the financial performance in Kenya.

In addition, carried out a study on the relationship between a successful enterprise risk management system, a performance measurement system and the financial performance of Thai listed Companies. The findings evidenced that financial success seem to have moderate correlation as firms that successfully implement an ERMS are apparently also successful in implementing a PMS. Finally, Muteti (2014) conducted a study on the relationship between financial risk administration and financial performance of Kenyan business banks. The study revealed that credit risk, interest rate risk, foreign exchange risk, liquidity risk, capital management risk, bank deposits and bank size were significantly influencing financial performance of Kenyan business banks. Other empirical studies include, (J. Beasley, Barron, Burnside, Hamatake, & Powers, 2005; Chris & Orok, 2017).

In conclusion, studies pertaining to enterprise risk management and sustainability of deposit money banks in Nigeria are limited, with numerous research uncovering enterprise risk management and financial performance of banks (Muteti, 2014; Nyagah, 2014; Yegon, 2015). However, none of these studies examined enterprise risk management on sustainability and survival of banks in Nigeria, adopting financial sustainability models developed by León (2001). In the same vein, none of these authors conducted research on the sustainability and survival of significantly sized deposit money banks in north central and Nigeria in general.

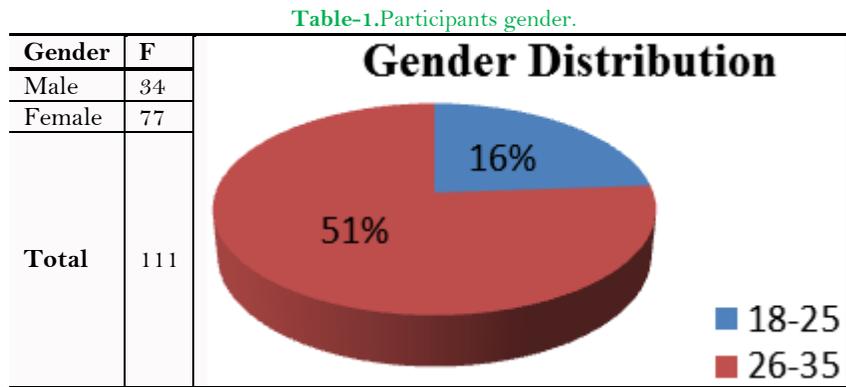
3. Methodological Framework

Survey research design was adopted for this study and primary source of data was utilized for the empirical section of the research. The targeted population of this study consists of credit risk managers and operational risk managers at all the deposit money Banks in Plateau State, north central Nigeria. Sampling framework comprises of a non-probability judgement sample of all 16 deposit money banks in Jos metropolis. The rationale for this; was due to the close geographic proximity, to ensure good coverage and avoid bias selection so as to give a fair representation of the target population since the above mentioned managers are fully involved in management of bank risk. For a good representative sample, a convenient sample size of 111 participants. A re-validated 5 points Likert scale, ranging from strongly disagree (1) to strongly agree (5) questionnaire was utilized to mobilize the required data for this study. The rationale for issue of 111 questionnaires is because questionnaires were filled by the target population (credit risk managers and operational risk managers) who are presumed to be very few in each branch of the bank. The use of questionnaires as a source of data collection is justified in that: first, the nature of the research hypotheses demands the collection of data that is not coded already on secondary sources. Secondly, the questionnaire method of data collection has advantage of simplicity, cost effective and time efficient. Credit risk managers and operational risk managers were requested to complete a questionnaire consisting of three sections.

Section (A) was structured to amass demographic data. While section (B) was patterned to gather background information on enterprise risks management. The final section (Section C) of the questionnaire was structured to collect information on the various indicators of bank sustainability and survival. The quantitative technique of data analysis was the employed to first describe the data. This was accompanied by multiple regression technique of analysis with aid of SPSSv23at 5% level of significance.

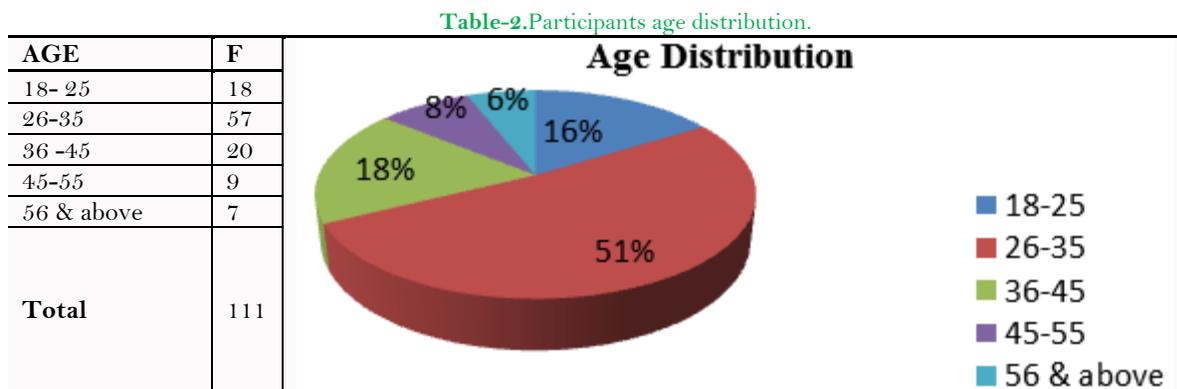
4. Result and Discussion

Out of the 111 questionnaires distributed, all questionnaires were validly filled and returned. A description of the sample’s demographic characteristics pertaining to their gender, age, marital status, educational qualification and years of work experience follows below;



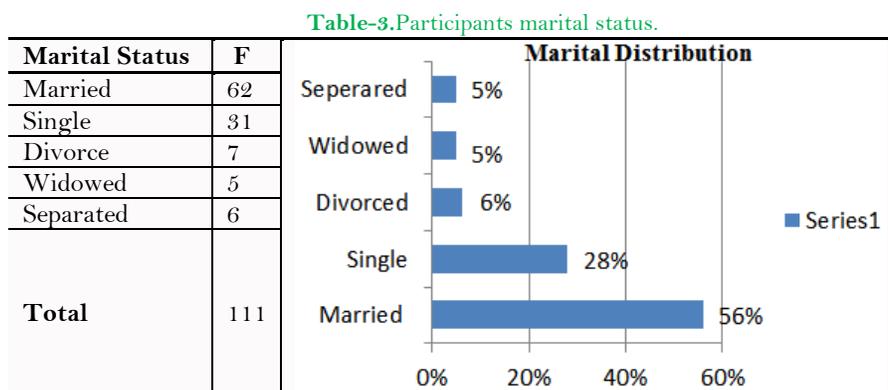
Source: Field Survey, 2019.

Table 1 showed that 34 and 77 of participants were males and females, representing 31% and 69% respectively. This shows that fewer males were involved in the research than females. This could be due to the availability of females in the study areas where the questionnaire were issued. Note that the percentages in the table have been rounded off.



Source: Field Survey, 2019.

The responses of participants based on age as shown in Table 2 indicated that 18 of the respondents fell within the age range of 18-25 representing 16%, 51% fell within the age range of 26-35, while those who fell within the age bracket of 36-45, 46-55 and above 55 years represented 18%, and 6% respectively. Those who fell within the age bracket of 26-35 are considered more in the study area than all other age range. Note that the percentages in the table have been rounded off.



Source: Field Survey, 2019.

Table 3, the marital status of participants considered indicated that 62 of the respondents were married, 31 were single, 7 were divorced, 5 were widowed 6 was separated. This represents 56%, 28%, 6%, 5% and 5% respectively. Note that the percentages in the table have been rounded off.

Table-4.Participants educational qualification.

Educational qualification	F
Diploma	4
First degree	40
Master degree	50
Others	17
Total	111

Source: Field Survey, 2019.

Table 4, the level of education of participant indicated that, 4 were diploma certificate holders, 40 were first degree holders, 50 were master’s holders, while 17 of the participant were holders of other forms of certificates. This represents 4%, 36%, 45% and 15% respectively. Note that the percentages in the table have been rounded off.

Table-5.Participants years of work experience.

Work Experience	F
Below 5years	17
5-10 years	57
10-20 years	22
20-30 years	12
Above 30 years	3
TOTAL	111

Source: Field Survey, 2019.

Table 5, 17, 57, 22 and 3 of participants are said to have had working experience below 5years, 5-10years, 10-20years, 20-30years and above 30 years. This represents 15%, 51%, 20%, 11% and 3% respectively. The low percentage of participants above 30 years indicated the low number of aged people in the banking services available in Jos. Note that the percentages in the table have been rounded off.

4.1. Model Specification

The Cronbach’s Alpha reliability test of this study show that the reliability test is 0.78 thus suggesting the reliability of each factor. The result of the content validity test are acceptable while construct exhibited range of results higher than 0.60 and lower than 0.30. Therefore, both the convergent and divergent validity construct have been satisfied.

In order to establish an existing relationship between enterprise risk management and sustainability and survival of banks, multiple regression was adopted and the model was specified as thus:

$$ERM=f(SFP, INCD, SAF) \tag{1}$$

$$ERM=\beta_1 + \beta_2 SFP + \beta_3 INCD + \beta_4 SAF + \epsilon_t \tag{2}$$

Where:

ERM= enterprise risk management.

SFP= strategic and financial planning.

INCD=income diversification.

SAF=sound administration and finance.

ϵ_t =error term.

$\beta_1 - \beta_4$ = parameter estimates of ERM, SFP, INCD and SAF.

4.2. A priori Expectations

The *a priori* expectation is; $\beta_i - \beta_i > 0$. That is, all the explanatory variables are expected to have positive effect on sustainability and survival of deposit money banks in the study area

Table-6. Descriptive of dependent and explanatory variables

Models	N	Minimum	Maximum	Mean	Std. Deviation
ERM	111	1.40	4.40	3.4144	.66262
SFP	111	1.50	4.83	3.5135	.72060
INCD	111	1.25	5.00	3.2815	.92817
SAF	111	1.55	4.50	3.2027	.71867

The total observations of the dependent and explanatory variables are 111. The table showed the mean, standard deviation, minimum and maximum values for the dependent and independent variables. The mean of enterprise risk management was 3.4144 percent with 0.66262 percent standard deviation. This means that, on an average, more than 3 percent of the enterprises adopted risk management for sustainability and survival. Enterprise risk management for the sample period ranges between 1.40 percent and 4.40 percent.

The result further showed that strategic and financial planning of the sample banks used in the study is more than 3 percent with a standard deviation of 0.72060 percent. The strategic and financial planning of the deposit money banks ranges between 1.50 and 4.83 percent. The income diversification of the sample banks used in the study averaged 3.2815 percent with a standard deviation of 0.92817 percent. The income diversification of banks ranges between 1.25 percent and 5.00 percent. As for sound administration and financial management, it showed a

mean value of 3.2027 percent and a standard deviation of 0.71867 percent. The sound administration and financial management of deposit money banks ranges between 1.55 and 4.50 percent.

4.3. Regression Analysis

Linear regression was employed to help capture the individual effects of the independent variables in the model. This is to indicate enterprise risk management has a significant relationship with the sustainability and survival of deposit money banks in Nigeria. Therefore, this indicates the relative strength of different independent variables' on the dependent variable. The model summary for the regression analysis is presented in Table 7.

Table-7. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.686 ^a	0.471	0.456	0.48887	1.972

The R value 0.686 indicates that there is a strong positive correlation between enterprise risk management and sustainability of deposit money banks in Nigeria. This depicts that enterprise risk management is strongly associated with sustainability of deposit money banks. The R-square is 0.471, meaning that income diversification, sound administration and finance and strategic and financial planning accounted for 47.1% variation in enterprise risk management sustainability of deposit money banks in Nigeria. This depicts that 47.1% variation in banks sustainability is explained by the independent variables. By implication, 52.9% variation in the dependent variable is unaccounted for in the model. Thus, 52.9% variation in deposit money banks survival and sustainability is explained by the stochastic (other variables outside the model) variable. The F-statistic result is presented in Table 8.

Table-8. ANOVA.

Model	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	22.724	3	7.575	31.694	.000 ^b
	Residual	25.573	107	0.239		
	Total	48.297	110			

Findings in Table 8 showed the F statistic of the result. The F value indicates whether the set of independent variables as a whole contribute to the variation in the dependent variable. An F value of 31.694 was found. Findings in Table 8 further revealed that the F value was insignificant ($p=0.000$) at 95% confidence level. This means that enterprise risk management is highly significant in predicting sustainability and survival deposit money banks in Jos plateau state. This depicts that income diversification, sound administration and finance and strategic financial planning jointly explain enterprise risk management of banks in Jos plateau state. By implication, despite other factors role in the determination of banks survival and sustainability, the explanatory factors in the model plays an imperative role. The result of the coefficients of the explanatory variables is presented in Table 9.

Table-9. Coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.209	0.272		4.449	0.000
	SFP	0.613	0.071	0.666	8.601	0.000
	INCD	0.066	0.059	0.092	1.117	0.267
	SAF	0.051	0.075	0.055	0.676	0.501

Table 9 shows the contribution of each variable in explaining enterprise risk management with survival and sustainability of the banks as shown by unstandardized beta values which assess the contribution of each variable towards the prediction of the dependent variable. The coefficient of the constant is 1.209 and significant given the probability value of zero. This means that enterprise risk management toward banks' sustainability is positive without the interplay of the explanatory variables in the model. However, strategic and financial planning has a positive coefficient of 0.613. This conformed to apriori expectation. Though, the coefficient is positive and explained 61.3% contribution to banks' sustainability, the variable remained significant at 5% level of significance (0.05 less than 0.000). This means that 1% increase in strategic and financial planning would amount to 61.3% increase in banks sustainability in Nigeria.

In addition, income diversification also conformed to apriori expectation of a positive value. This is depicted by the coefficient of 0.066. The probability value of 0.267 is greater than 0.05 level of significant. This means that the variable contributed positively to the tune of 6.6% to banks sustainability in Jos. A 1% increase in income diversification of banks would lead to 6.6% increase in banks sustainability and survival in Nigeria.

On the other hand, sound administration and finance of bank is statistically significant given the probability of 0.501 which is greater than 0.05 level of significant. The coefficient of sound administration and financial management is 5.1%. This means that sound administration and financial management contributes positively to banks sustainability and survival to the tune of 5.1%. By implication, a 1% increase in sound administration and financial management bank would lead to 5.1% increase in banks sustainability and survival in Nigeria.

5. Conclusion and Recommendations

This study assessed the effect of enterprise risk management on sustainability and survival of deposit money banks in Nigeria. On overall basis, Findings revealed that enterprise Risk management is a necessity for financial institutions to survive and thrive in the long term. It further reveals on individual basis that there is a significant relationship between ERM and strategic and financial plan, income diversification and sound administration and financial management. In view of the above assertion, the following recommendations were made:

In other to remain relevant and financially successful in the face of growing competitive banking environment, shorter product lifecycle, and continuous modifications in innovative technologies, it is imperative that financial institutions readjust their strategic financial plans and increase their income diversification base to combat adverse impacts of risks and uncertainty in bank transactions; more so, to keep up with global trends, financial institutions should not underestimate the role sound administration and financial management plays in reducing attendant cost and in forestalling future financial crisis.

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