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A MODERATING ROLE OF BOARD CHARACTERISTICS ON THE EFFECT OF ANTECEDENTS ON THE STAGE OF ENTERPRISE RISK MANAGEMENT IMPLEMENTATION



DOCTOR OF PHILOSOPHY UNIVERSITI UTARA MALAYSIA

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EFFECT OF ANTECEDENTS ON THE STAGE OF ENTERPRISE RISK MANAGEMENT IMPLEMENTATION



Thesis Submitted to Tunku Puteri Intan Safinaz School of Accountancy, College of Business, Universiti Utara Malaysia, in Fulfilment of the Requirement for the Degree of Doctor of Philosophy

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Tandatangan

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ABSTRACT

Enterprise Risk Management (ERM) has become an important issue of increasing attention among the business community throughout the world. However, the concept is still relatively new among Nigerian companies and little is known about why many organizations are not fully implementing it. The main objective of this study is to examine the current state of ERM practices and the stage of its implementation in the Nigerian banking sector. The study further examined the effect of the antecedents on the stage of ERM implementation, and evaluated the moderating effect of board characteristics on the relationship between antecedents and the stage of ERM implementation. The study used a survey approach to collect cross-sectional data across 361branches and the headquarters of the 21 Nigerian commercial banks using 722 respondents. The response rate is 60 percent. Logistic Regression Model was used for data analysis. The finding revealed that there is an ERM complete in place in majority of the banks. Furthermore, the finding showed that internal audit effectiveness, human resource competency and top management commitment effect significant influence on the stage of ERM implementation while regulatory influence had partial effect. Likewise, there is a moderating effect of board characteristics on internal audit effectiveness and the stage of ERM implementation. The finding has a policy implication for the Board of Directors to improve their oversight functions and the regulatory authorities to entrench risk based supervision in all the Nigerian banks. Nevertheless, the study has limitation in terms of power of prediction with respect to measurement scale of the dependent variable and the respondents. Future research is therefore needed to evaluate the effectiveness of ERM process using a more robust scale and top management as respondents. Therefore, a clarion call is made to introduce an ERM practices across all the Nigerian companies irrespective of their status.

Keywords: Board characteristics; enterprise risk management; board directors; Nigerian banks; shareholder value.

ABSTRAK

Pengurusan Risiko Perusahaan atau Enterprise Risk Management (ERM) telah menjadi isu penting yang semakin mendapat perhatian dalam kalangan komuniti perniagaan di seluruh dunia. Walau bagaimanapun, konsep ini masih agak baharu dalam kalangan syarikat perusahaan di Nigeria dan tidak banyak yang diketahui tentang mengapa banyak organisasi tidakmelaksanakan ERM ini sepenuhnya. Objektif utama kajian adalah untuk menyelidik keadaan semasa amalan ERM dan tahap pelaksanaannya dalam sektor perbankan di Nigeria. Kajian ini menyelidik lebih mendalam tentang kesanantesedan pada peringkat pelaksanaan ERM, dan menilai kesan pengantara ciri-ciri lembaga pengarah terhadap antesedan dan peringkat pelaksanaan ERM. Dalam kajian ini, pendekatan tinjauan digunakan untuk mengumpul data keratan rentas daripada 361 cawangan dan ibu pejabat bagi 21 buah bank perdagangan Nigeria dengan menggunakan 722 responden.Dengan kadar maklum balas sebanyak 60 peratus, Permodelan Regresi Logistik digunakan untuk menganalisis data. Dapatan kajian menunjukkan terdapat ERM lengkap dalam kebanyakan bank tersebut. Tambahan pula, keberkesanan audit dalaman, kecekapan sumber manusia dan kesan komitmen pengurusan atasan mempengaruhi peringkat pelaksanaan ERM secara signifikan ,manakala pengaruh kawal selia memberikan kesan separa.Di samping itu, terdapat kesan pengantara ciri-ciri lembaga pengarah ke atas keberkesanan audit dalaman dan peringkat pelaksanaan ERM.Dapatan ini mempunyai implikasi dasar bagi Lembaga Pengarah untuk meningkatkan fungsi pengawasan dan pihak penguasa kawal selia untuk mengukuhkan kawalan penyeliaan risiko semua bank di Nigeria.Walau bagaimanapun, kajian ini agak terbatas dari segi kuasameramaldengan skala pengukuran pemboleh ubah bersandar dan responden. Oleh itu, kajian akan datang diperlukan untuk menilai keberkesanan proses ERM menggunakan skala yang lebih mantap dan menjadikan pihak pengurusan atasan sebagai responden. Oleh yang demikian, amalan ERM sememangnya amat perlu diperkenalkan kepada syarikat-syarikat perusahaan di seluruh Nigeria tanpa mengira status.

Kata kunci: Ciri-ciri lembaga pengarah; pengurusan risiko perusahaan; lembaga pengarah; bank Nigeria; nilai pemegang saham.

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TABLE OF CONTENTS

CERTIFICATION OF THESIS	1
PERMISSION TO USE	III
ABSTRACT	IV
ABSTRAK	V
ACKNOWLEDGEMENT	VI
TABLE OF CONTENTS	VIII
LIST OF TABLES	XIV
LIST OF FIGURES	XVI
LIST OF ABBREVIATIONS	XVII

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study	1
1.2 Problem Statement	5
1.3 Research Objectives	5
1.4 Research Questions	6
1.5 Significance of the Study	6
1.5.1 Empirical and Theoretical Perspective1	7
1.5.2 Practical Perspective	0
1.6 Scope of the Study22	2
1.7 Definition of Key Terms	5
1.7.1 Stage of Enterprise Risk Management Implementation20	6
1.7.2 Regulatory Influence	6
1.7.3 Internal Audit Effectiveness	6
1.7.4 Human Resource Competency	6
1.7.5 Top Management Commitment2	7
1.7.6 Board Characteristics	7
1.8 Organization of the Study	7

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction	29
2.2 Overview of Risk Management	30
2.2.1 Concept of Risk	31
2.2.2 Development of Risk Management	33
2.2.3 Enterprise Risk Management	38
2.3 Risk Management in the Nigerian Banking Sector5	51

2.3.1 Central Bank of Nigeria	53
2.3.2 The Nigerian Banks and Implementation of the Basel 11 Accord	55
2.3.3 Risk Management in the Banking Sector	57
2.4 Antecedents of the Stage of Enterprise Risk Management Implementation	63
2.4.1 Stage of Enterprise Risk Management Implementation	67
2.4.2 Current State of ERM Practices	84
2.4.3 Regulatory Influences	86
2.4.4 Internal Audit Effectiveness	88
2.4.5 Human Resource Competency	91
2.4.6 Top Management Commitment	96
2.4.7 Moderating Effect of Board Characteristics on the Relationship between Antecedents and the Stage of ERM Implementation	98
2.5 Conclusion	05

CHAPTER THREE: THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

3.1Introduction
3.2Theoretical Framework
3.2.1Objective of Research Framework110
3.2.2Agency Theory111
3.2.3 Relationship between Agency Theory and Enterprise Risk Management
3.2.4 Institutional Theory117
3.2.5 Summary of the Theoretical Framework119
3.3 Conceptual Model and Hypothesis Development
3.3.1 Research Hypotheses on the effect of Antecedents on the Stage of ERM Implementation
3.3.2 Regulatory Influence
3.3.3 Internal Audit Effectiveness
3.3.4 Human Resource Competency129
3.3.5 Top Management Commitment132
3.3.6 Moderating Effect of Board Characteristics on the Relationship between the Antecedents and the Stage of ERM Implementation
3. 4 Control Variables
3.5 Conclusion

CHAPTER FOUR: RESEARCH METHODS

4.1 Introduction
4.2 Research Design
4.3 Respondents of the Study
4.3.1 Population and Sample for the Study144
4.3.2 Sample Design/Frame148
4.4 Research Instruments
4.4.1 Survey Questionnaire
4.4.2 Measurement of Variables
4.4.3 Stage of Enterprise Risk Management Implementation
4.4.4Antecedents of Stage of Enterprise Risk Management Implementation 162
4.4.4.1 Regulatory Influence162
4.4.4.2 Internal Audit Effectiveness
4.4.4.3 Human resource competency163
4.4.4.4 Top Management commitment164
4.4.4. 5 Moderating Effect of Board Characteristics on the Antecedents and the Stage of ERM Implementation
4.4.4.6 Auditor Type 166
4.4.4.7. Bank Size166
4.4.4.8 Bank Complexity166
4.4.4.9 CRO Existence
4.4.4.10 NSE Listing
4.5 Validity of the Research Instruments
4.5.1 Pilot Test
4.5.2 Expert Review
4.6 Data Gathering Procedure
4.6.1 Data Collection
4.6.2 Nonresponse Bias
4.7 Methods of Data Analysis
4.7.1 Descriptive Statistical Analysis
4.7.2 Correlation Analysis
4.7.3 Binary Logistic Regression Analysis181
4.7.4 The Research Model
4.7.5 Logistic Regression Model

4.7.6	6 Odds Ratio for Decision to Im	plement ERM (Complete or Partial	
4.8 Conc	lusion			

CHAPTER FIVE: ANALYSIS AND FINDINGS

5.1 Introduction
5.2 Response Rate
5.2.1 Analysis of Nonresponse Bias193
5.3 Respondents Background Statistics
5.3.1 Bank Background Statistics197
5.4 Data Screening and Preliminary Analysis
5.4.1 Missing Data202
5.4.2 Assessment of Outliers
5.5 Descriptive Statistics
5.5.1 Current State of ERM Practices
5.5.2 Descriptive statistics of the Stage of ERM Implementation
5.6 Validity Test 211
5.6.1 Correlation Analysis214
5.7 Hypotheses Testing215
5.7.1 Logistic Regression for Research Models 1 to 3
5.7.2Model Assumptions
5.7.3 Goodness-of-Fit Statistics
5.7.4 Test of the Model Specification
5.7.5 Summary of Models 1 to 3 for Logistic Regression
5.7.6 Stata Structural Modeling226
5.7.7 A Moderating Effect of BCS on the Antecedents of ERM Model (Model 4)
5.7.8 Odds Ratio for Coefficients
5.7.9 Effect Size
5.8 Summary of Hypotheses on the Stage of ERM Implementation
5.9 Conclusion

CHAPTER Six: SUMMARY AND CONCLUSION

6.1 Introduction	
6.2 Study Recapitulation	234

6.3 Discussion of Overall Research Findings
6.3.1The Current State of ERM Practices in the Nigerian Banking Sector239
6.3.2The Stage of ERM Implementation in the Nigerian Banking Sector245
6.3.3 The Effect of Antecedents on the Stage of ERM Implementation in the Nigerian Banking Sector
6.3.3.1The Effect of Regulatory Influence on the Stage of ERM Implementation
6.3.3.2 The Effect of Internal Audit Effectiveness on the Stage of ERM Implementation
6.3.3.3 The Effect of Human Resource Competency on the Stage of ERM Implementation
6.3.3.4 The Effect of Top Management Commitment on the Stage of ERM Implementation
6.3.4 The Effect of Control Variables on the Stage of ERM Implementation .255
6.3.5A Moderating Effect of Board Characteristics on the Antecedents and the Stage of ERM Implementation
6.4Summary of Key Findings
6.5 Implication of the Study267
6.5.1 Managerial/Practical Implications
6.5.2Theoretical Implications
6.5.3 Methodological Implication
6.6 Limitation of the Study
6.7 Suggestions for Future Research
6.8 Conclusion

REFERENCES .	
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APPENDICES

Appendix 1	Questionnaire	340
Appendix 2	Questionnaire Development	349
Appendix 3	Logistic Regression Output for Model	355
Appendix 4	Logistic Regression Output for Model 2	356
Appendix 5	Logistic Regression Output for Model 3	359
Appendix 6	Structural Equation Modeling	363

36	366
36	368
36	369
l 37	370
37	371
37	375
37	376
37	377
37 37	376 377





LIST OF TABLES

Table 4.1 List of Commercial (MDBs) Banks and Branches in Each State of Nigeria as at 31 st December, 2012	45
Table 4.2 Distribution of Bank Branches in the Eight Cities	47
Table 4.3 Questionnaire Distribution among the Nigerian Cities	58
Table 4.4 Descriptive Analysis of the Measurement Scale 1	61
Table 4.5 Factor loading, Kmo, Eigenvalue and Variance 1	72
Table 4.6 Experts Consulted for Pre-test of the Questionnaire 1	75
Table 5.1 Distribution of Questionnaire among the Nigerian Cities	93
Table 5.2 Questionnaire Distribution and Response Rate 1	94
Table 5.3 Non Response Bias 1	95
Table 5.4 Descriptive Statistics	99
Table 5.5 Total and Percentage of Missing Values 2	204
Table 5.6 Percentages of Current Focus on Risk Management Efforts	207
Table 5.7 Percentages of Development of ERM Framework 2	208
Table 5.8 Percentages of Motivations to Adopt ERM in the Bank2	209
Table 5.9 Percentages of Areas of Risk which Present Greatest Potential Threats	209
Table 5.10 Descriptive Statistics for Independent Variables 2	210
Table 5.11 Stage of ERM Implementation (SERM)	212
Table 5.12 Summary of Result of Factor loading, KMO and Bartlett's Test of Sphericity	214
Table 5.13 Correlation 2	216
Table 5.14 Multicolllinearity Test 2	216
Table 5.15 Tests for Goodness of Fit (Binary Model 1)	220
Table 5. 16 Model Specification Test (Linktest, Model 1)	220
Table 5.17 Tests for Goodness of Fit (Binary Model 2)	221
Table 5.18 Model Specification Test (Linktest Model 2)	221
Table 5.19 Test of goodness of fit for Model 3 2	222
Table 5.20 Test of Model specification for Model 3 2	224
Table 5.21 Summary of Models 1 to 3 for Logistic Regression	225
Table 5. 22 Stata Structural Equation Modeling Result 2	228
Table 5.23 Moderating Effect of Board Characteristics on the Antecedents	230

Table 5.24	Coefficients and Odd Ratios of the Extended Model	231
Table 5.25	Summary of Hypotheses on the Stage of ERM Complete in Place	232



LIST OF FIGURES

Figure 3.1 Proposed Theoretical Framework	120
Figure 5.1 Structural Equation Modeling	228



LIST OF ABBREVIATIONS

ACCA	Association of Chartered Certified Accountants
ACIB	Association of Chartered Institute of Bankers
ANAN	Association of National Accountants of Nigeria
APT	Areas of Risk that Present Greatest Threat to the Bank
BCS	Board Characteristics Support
BIS	Bank for International Settlement
BOD	Board of Directors
BOFI	Banks and Other Financial Institutions
BRM	Business Risk Management
CAE	Chief Audit Executive
CAS	Casualty Actuarial Society
CBN	Central Bank of Nigeria
CEO	Chief Executive Officer
CFO	Chief Finance Officer
CFR	Current Focus of Risk Management Efforts
CIMA	Chartered Institute of Management Accountants
COSO	Committee of Sponsoring Organisation of the Treadway
CORM	Corporate Risk Management
CRM	Credit Risk Management
CRO	Chief Risk Officer
DEF	Development of Enterprise Risk Management Framework
Div	Dividend
ECB	European Central Bank
ERM	Enterprise Risk Management
EWRM	Enterprise Wide Risk Management
FDIC	Federal Deposit Insurance Corporation
GDP	Gross Domestic Product
GRC	Corporate Governance, Risk Management and Compliance
HRM	Holistic Risk Management
HRC	Human Resource Competency
IAE	Internal Audit Effectiveness
IASB	International Accounting Standard Board

ICAN	Institute of Chartered Accountants of Nigeria
IIA	Institute of Internal Auditing
IMF	International Monetary Fund
IRM	Institute of Risk Management
INRM	Integrated Risk Management
ISE	Istanbul Stock Exchange
ISM	Information Security Management
ISPPIA	International Standards for the Professional Practices of Internal Auditing
KPMG	Khynveld Peat Marwick Goendeler
MDB	Money Deposit Bank
MEA	Motivation for Enterprise Risk Management Adoption
MIA	Middle Africa
NDIC	Nigeria Deposit Insurance Corporation
NICON	National Insurance Corporation of Nigeria
NIM	Nigerian Institute of Management
NSE	Nigerian Stock Exchange
OLS	Ordinary Least Square
РСР	Percentage of Correct Prediction
PLC	Public Limited Company versiti Utara Malaysia
R&D	Research and Development
RIS	Regulatory Influence Support
RMC	Risk Management Committee
ROE	Return on Equity
SAN	Senior Advocate of Nigeria
SAP	Structural Adjustment Progra
SEM	Structural Equation Modeling
SERM	Stage of Enterprise Risk Management Implementation
SOX	Sarbanes-Oxley Act
S & P	Standard and Poor
SPSS	Statistical Package for Social Science
TMC	Top Management Commitment
TRM	Traditional Risk Management
TSE	Toronto Stock Exchange

UK	United Kingdom
US	United States
VIF	Variance Inflation Factor



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Enterprise Risk Management (ERM) has gained an increased attention in recent years and has become a subject of interest to the stakeholders in the business world. Many companies and organisations have implemented ERM using different frameworks or through outsourcing services. The deployment of ERM in the organisations, especially the financial industry provides the required monitoring mechanism to effectively address potential risk exposures that can jeopardize the accomplishment of the objectives of the enterprise. Thus, the essence of ERM adoption is to ensure that corporate goal of raising the value of stakeholders is achieved. Enterprise Risk Management implementation further enables the entity to acquire advantage of risk and effectively convert it to an opportunity for the benefit of the enterprise.

Presently, most businesses and industries are facing various threats from risk exposures which have been on the increase, and are visible. These include compliance risk, competitiveness risk, financial risk, operational risk and strategic risk arising from technological advancement, globalization, incessant terrorist activities, diversification, information security and industrialization (Jalal-Karim, 2013). The management of risk exposures must be practical in terms of taking offensive action rather than defensive position. Therefore, managing such risk can be a real source of golden opportunity and challenge, and can be a powerful tool for supporting competitive advantage (Gatzert & Martin, 2013; Jalal-Karim, 2013). Enterprise Risk Management is therefore a roadmap to identifying and analysing the various risks faced by the enterprises from a business wide perspective. The arrangement by which separate units or sections of the organization manage risks is commonly referred to as Traditional Risk Management (TRM) or "silo" while the new concept which uses enterprise wide approach to manage risk across the organisation is now known as "Enterprise Risk Management (ERM)", which has the same meaning as Holistic Risk Management (HRM), Corporate Risk Management (CORM), Integrated Risk Management (INRM), Enterprise-Wide Risk Management (EWRM), and Business Risk Management (BRM) (Gupta, Lehmann & Stuart, 2004; Hoyt & Liebenberg, 2006; Manab & Kassim, 2012).

Enterprise Risk Management is assumed and utilized throughout this study and will be used interchangeably with risk management. For consistency, the acronym ERM will be applied throughout the work. The adoption of ERM is necessary because the international standards and the Basel 11 Accord¹ principles emphasized ERM in banks. However, the Nigerian Code of Corporate Governance directs banks to put in place a robust risk management system (CBN, 2011).

Numerous studies documents that ERM is needed for high level corporate governance (Adebayo & Adetayo, 2014; Al-Tamimi & Al-Mazrooei, 2007). The practices of corporate governance and ERM are interdependently and closely connected together because they enhance the monitoring capacity and capability of the Board of Directors (Manab *et al.*, 2010; Daud *et al.*, 2011).

¹Basel 11 Accord is the second of Basel Accords which are recommendations on banking laws and regulationsissued by the Basel Committee on banking supervision. Basel 11 attempts to integrate Basel Capital Standards with national regulations, by setting the minimum Capital requirements of financial institutions with the goal of ensuring institution's liquidity.

The recent company collapse and other external and internal factors, coupled with the lack of confidence by investors and creditors in financial reporting, are the main reasons which become strong motivating factors for strengthening and enhancing corporate governance and the adoption of ERM across industries (Kleffner *et al.*, 2003a; Lam, 2014). Therefore, ERM has now become an important issue for the business, industries and the academia, broader in scope and have been included in corporate philosophy (Kleffner *et al.*, 2003). The goal of ERM is to preserve and enhance shareholder value (Gordon *et al.*, 2009; Manab *et al.*, 2010; Hoyt and Liebenberg, 2011).

However, ERM concept is still relatively new among Nigerian companies and little is known about why many organizations are not fully adopting it. The Central Bank of Nigeria (CBN, 2012) asserts that risk management is still at its rudimentary stage in Nigeria and there is paucity of research in ERM related issues (Faun, 2013). In today's challenging global economy, business opportunity and risks are continually changing. Therefore, there is a need to identify, assess, manage and monitor the banks business opportunities and risks.

Corporate boards globally have been attracting a great deal of attention in the past years because of corporate failures and concerns around the functioning of corporations and the manner they are regulated. Ahmad (2014) suggests that ERM is a critical part of the corporate governance system. The Code of Corporate Governance apparently split out the guidelines for the Board of Directors to adequately perform their duties concerning monitoring role, even using internal or external monitoring mechanisms such as auditors. Due to the new challenges of the global economy, it is necessary to evaluate the type of characteristics of the Board of Directors and top management possess. Board characteristics significantly affect the performance and the level of corporate governance practices of an organization (Wong & Bajuri, 2013). Top management is now under increased pressure to improve on their internal risk control systems (Dickinson, 2001). Increasing the competitiveness of an organization's workforce, including the board and top management enhances higher opportunities of being successful. Competency level of the Board of Directors and top management will enable them exploit opportunities and minimize threats associated with risks for the benefit of the bank particularly enhancing competitive advantage.

The Institute of Internal Auditors (2004; 2011) specified the internal auditor's involvement in ERM. Such roles include playing active role in ERM process, giving support to ERM by providing assurance on critical controls and development of new techniques for monitoring, review and communication to improve the effectiveness of ERM and governance in their organisations. The assurance provided by the internal auditors to the stakeholders is a key requirement of ISO 31000 which provides explicit approaches and guidance on ERM process. Therefore, internal audit has to update its role and responsibilities to support continuous improvement of ERM implementation.

Global concerns about risk exposures have been increasing. In this arena, enterprises of all kinds and sizes want robust ERM frameworks that satisfy compliance demands, contribute to better decision making, and enhance performance. Violations or nonconformance to laws, rules, regulations, ethical standards, and policies can jeopardize earnings, capital, and reputation of the organisation. Current pressures to provide strong and sustainable risk-adjusted returns on capital influence financial companies to invest in improved approaches for measuring risks (Embrechts, Furrer, & Kaufmann, 2003; Kuritzkes, Schuermann, & Weiner, 2003). Various frameworks have been developed in the past few years across the world for the adoption and practice of ERM. Examples are the Sarbanes-Oxley Act in US, Turnbull report in the UK, the Canadian Standards, Australia /New Zealand Standards, ISO 31000 and several Codes of Corporate governance (see Appendix 12).

Enterprise Risk Management redefines the value proposition of risk management by elevating its focus from tactical to the strategic. Enterprise Risk Management is about designing and implementing capabilities for managing the risks that matter. The greater the gaps in the current state of ERM practices and the expected future state of the banks risk management capabilities, the greater the need for ERM infrastructure to facilitate the advancement of risk management capabilities over time. The next sections examine the problem statement, objectives of the research, contribution, scope and definition of key terms.

1.2 Problem Statement

The failure of major business corporations in US and other economies of the world have made board oversightfunction as an important aspect of risk management process. In essence, the Board of Directors (BOD)' role in risk oversighthas come under increased scrutiny, resulting in shareholder lawsuits, increased regulation, and more extensivedisclosure and listing requirements (Ittner & Keusch, 2015). Board of directors considers how best they can encourage the existence of efficient risk management process (Daud, Haron, & Ibrahim, 2011). Caldwell (2012) asserted that one of the major influences that lead to effective risk management in organisations is the presence of proper corporate governance initiatives of which board oversight is a vital attribute. For successful management of risk by the bank, an ERM scheme must be viewed as an important board strategicpolicy decisions (COSO, 2004). Support from the BOD and senior management is needed to get theright focus, resources and attention for ERM to be efficient and, further, improve bank performance.

Lack of attention and poor risk management can quickly erode competitive advantage. Some organisation's BOD and top managementare still reluctant to embraceERMbecause of the uncertainty regarding its value. However, based on the extant literature on risk management, the application of ERM leads to increased management consensus, better-informed decisions, enhanced communication of risk taking, and greater management accountability. The majority of banking laws places the ultimate responsibility for risk management practices with the BOD.

Given the complexities of the banking environment, the effort to deal with risk exposures has become crucial to their' survival (Boniface & Ibe, 2012). In fact, companies continue to face heightened instability from the effect of globalization, deregulations, and intensive competitions. As such, the failure of banks to be proactive in risk assessment, mitigation and control had resulted in poor performance and ultimate failure in the past (Fadun, 2013). Moreover, the majority of corporate bodies lacked the active strategies for identifying new business opportunities. Therefore, an engagement imperatives, performancemeasures, risk management methodologies, skills and competencies for a sound business performance havebecome necessary (Awoyemi, 2010). These challenges have brought the issue of the influence of the diverse characteristics of the BOD to implement risk management to the limelight. These challenges require the BOD diversity to boost the adoption of ERM. In spite of the sophistication of modern banking environment, they are more than ever before getting more exposed to potentially destructive events that constrained high performance to enhance wealth creation (Jalal-Karim, 2013).

Lamentably, in the Nigerian circumstance, the risk management approaches of the majority of financial institutions did not progress commensurately to sustain the quick market growth (SEC, 2012). The CBN audit report classified eight banks in serious financial grief (Sanusi, 2010). In all these instances, inadequacies of the risk management programs, ineffectiveness of the BOD and weak regulatory supervision were cited as the primary causes of poor bank' performance and bank failure.

Several studies (Aebi *et al.*, 2012; Entebang & Mansor, 2011; Greuning & Bratanovic, 2000; Li, 2012) were conducted on the moderating role of the BOD but none of the studies examine the moderating role of board characteristics on the implementation of ERM. Likewise, some studies (Allen, 2000; Alzoubi & Selamat, 2012; Kutum, 2015; Rose, 2007) based in US, UK and some emerging economies have tested the moderating effects of leadership and top management support on determinants of ERM adoption. However, there has been no investigation to test the moderating effect of board characteristics on ERM implementation especially in Nigeria.

Similarly, a few studies (Akpan & Amran, 2014; Al-Matari, Al-Swidi, Fadzi, & Al-Matari, 2012; Saleh, Iskandar, & Rahmat, 2005) investigated the influence of board characteristics in relation to other areas and had mixed findings but failed to examine the role of board characteristics in relation to the adoption of ERM especially in the banking industry. Therefore, the need to examine the role of the board characteristics in relation in the Nigerian banking sector is imperative.

It has been reported that there has been ineffective monitoring mechanism with respect to risk management as a result of weak regulatory supervision (CBN, 2011). There are also limited studies that tested the influence of regulatory environment on the adoption of ERM but these studies were not conducted in the banking sector. For example, Paape and Spekle (2011) examine the adoption and design of ERM in the Netherlands and found that the extent of ERM implementation is influenced by the regulatory environment, internal factors, ownership structure, and firm and industry-related characteristics. However, the study was conducted in a variety of industries and the public sector and in a developed country.

Similarly, Kleffner *et al.*, (2003) investigated the effect of corporate governance on the use of ERM in the Canadian Insurance Companies. The results show that 31 percent of the sample had adopted ERM and that reasons for adopting ERM were: the influence of the risk manager (61 percent), encouragement from the BOD (51 percent), and compliance with Toronto Stock Exchange (TSE) guidelines (37 percent). In essence, the study did not find compliance with TSE guidelines as influential factor for the adoption of ERM. These findings have mixed results which warrants further investigation of the influence of regulatory environment on ERM

adoption. Therefore, there is the need to further test the regulatory influence on ERM implementation especially in a developing country like Nigeria.

Weaknesses in corporate governance arrangements evidenced by waves of corporate collapse in the early 2000s (Sikka & Liew, 2009) has led to an increased emphasis on the role of internal auditors in risk management. The COSO framework lays out key elements of a process for managing all types of risk (COSO, 2004). It calls for internal audit functions to "assist management and the BOD by examining, evaluating, reporting on, and recommending improvements to the adequacy and effectiveness of the entity's ERM processes." This call from COSO is consistent with the IIA's definition of internal auditing, which specifically mentions "risk management, control, and governance processes" as an element of internal auditing's responsibilities (Beasley, Clune, & Hermanson, 2016).

Sequel to the rise of ERM, internal auditing has also experienced a paradigm shift in recent years. Guided largely by the IIA's revised definition of the profession, internal auditing has moved from a control based approach to one that focuses on risk management, corporate governance and value addition. By implication, internal auditors assist organisations identify and evaluate risks, moving the profession towards risk management. Therefore, internal auditors are in a position to make significant contribution to the ERM process and add value to ERM implementation. Internal audit effectiveness implies the role of the internal auditors to achieve the set goals of the organization (Arena & Azzone, 2009).

Internal auditors should exploit the opportunity to educate the management regarding the self-evaluations concerning risk identification and evaluation of the internal controls and risk management practices within the organizations (Cristina & Cristina, 2009). The internal auditors should also possess the requisite qualification and technical power to perform adequately analytical jobs, and facilitation skills and value added activities (Badara & Saidin, 2014) to facilitate the deployment of ERM.

Lamentably, there are very limited studies that examined the influence of internal audit effectiveness on ERM implementation.Badara and Saidin (2014) examined the empirical evidence of the antecedents of internal audit effectiveness in Nigerian local government and found a positive association between risk management and internal audit effectiveness. Several studies (Arena & Azzone. 2009; Cohen & Sayag, 2010) find that the internal audit effectiveness has an impact on organizational performance and enhancement of shareholder value through ERM implementation. Most of these studies emphasized the new roles of internal audit effectiveness in the ERM process in organizations. However, the studies lamentably failed to examine the effect of internal audit effectiveness on ERM implementation, hence, the need to test its impact on ERM implementation in the Nigerian banking sector.

It is important to integrate both strategy and human resources into the ERM process. From human resources perspective, specific goal-setting tied to the success of ERM must be part of an individual's performance management plan; without this, the implementation exercise may fail (Shortreed, Fraser, & Purdy, 2011). Similarly, the business strategy should be defined at the inception of the exercise along with the organisation's mission and vision. The ERM process will emanate from this strategy, and events that may impact achievement of the organisation's strategies and objectives should be identified accordingly (Shortreed *et al.*,2011). Therefore, failure to develop staff, however, could mean that there are limited opportunities for promotions and rewards which motivate and retain successful and loyal workers for effective ERM implementation.

Rapidly changing business environments and enterprises realize the value of a workforce that is not only extremely skilled and technically adept but more significantly, a workforce that can quickly adapt to change, communicate effectively, and foster interpersonal relationships to enhance and promote the implementation of ERM. These skills are vital to organizational survival, productivity, and continual improvement which are all required for the implementation of ERM. Competencies provide the foundation through which human resource professionals can contribute to the success of ERM adoption. However, not much attention is given to research on the role of human resource competency in ERM implementation. This calls for the assessment of the impact of human resource competency on ERM deployment.

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Several studies examine the role of top manament in the implementation of ERM. Beasley et al. (2005) argue that top management support and commitment are very necessary and relevant for the successful execution of the ERM. Furthermore, Bowling and Rieger (2005) suggest that without the commitment, support, and capabilities of top management, the ERM program may fail to succeed. Hussin et al. (2008) surveyed 20 Malaysian Public Listed Companies and identified six factors that drive ERM as a value-added tool: a commitment and transparency from top management, drives towards a more systematic management risks, strong involvement of executive leadership and their support, perception and understanding for development of competency by companies itself, more and more education and training, and culture-creation by companies.

Furthermore, Altuntas et al. (2011) analyse factors that influence a German company's decision to start an ERM program. They conducted a comprehensive survey to get a direct measure of ERM program adoption. They argued that top management's decision to adopt ERM is influenced by Board members. However, the CBN emphasized that there is lack of effectiveness of the top management as a result of power tussles among members of the management, inconsistent implementation of sound risk management philosophies, weak internal control and incompetency due to lack of skill, experience and expertise. It is therefore expedient to examine the role and commitment of top management in ERM implementation especially in the Nigerian banking sector in view of the peculiarities of the Nigerian environment.

In Nigeria, research in ERM implementation is still scarce. To the best of the researcher's knowledge, there is no single published research that has addressed the issue of the effect of board characteristics on effective monitoring of the function of managers with respect to ERM implementation. In this regard, this study makes a significant contribution towards understanding the interactive role of board characteristics on ERM implementation. Therefore, there is a need to assess the effectiveness of some board characteristics to monitor management behaviour with respect to their oversight activities within the regulatory and banking environments to promote the implementation of ERM in the Nigerian banking sector.

The sum effect of this is that the risk was being managed in "silo" or completely ignored (Nocco & Stulz, 2006). Improper management of risk can escalate risks, distracts operational system (Hoyt & Liebenberg, 2008; Manab, Kassim, & Othman, 2012; Nocco & Stulz, 2006). Likewise, weak ERM systems in the banking sector make the banks to be less competitive, thus; low investment (Sanusi, 2010; 2011). Consequently, a quite number of financial institutions became bankrupt as a result of risk management failure and ineffective monitoring systems, and weak internal control due to the poor quality of BOD and inefficient top management (CBN, 2011; 2012).

Various studies examined the factors that influence ERM adoption in both private and publicly listed companies (Descender, 2011; Grace, Leverty, Phillips, & Shimpi, 2015; Golshan & Rasid 2012; Mehran, Morrison, & Shapiro, 2011; Yazid, Hussin, & Daud, 2012). However, few studies (Kenya, Anguka, & Nairobi 2012; Pagach & Warr, 2011) examined ERM adoption in financial institutions, but majority of the studies were in public and privately listed companies. Nevertheless, some of the studies had mixed findings. It is apparent that most of the studies were carried out in developed nations such as USA, Canada, Germany, Spain and emerging economies like Malaysia, South Africa, and a host of others. Moreover, majority of the studies were conducted in non-financial institutions and insurance companies using several variables.

Prowse (1997) demonstrates that research on corporate governance particularly ERM practices applied to financial intermediaries especially banks, is indeed scarce. This opinion is also supported by several studies (Oman, 2001; Goswami, 2001; Arun

&Turner, 2002). Past researchers have ignored the empirical examination of the implementation of ERM and the role of board characteristics in ERM adoption in the banking sector, particularly in developing countries, despite its contribution to the economic development of those countries. Hence, the justifications for this study in the developing countries like Nigeria. Similarly, the study by Manab and Kassim (2012) suggests future research on differences in ERM implementation among different economies around the world. Therefore, the researcher hangs the gap for this study. Furthermore, the identification of antecedents and the current stage of ERM implementation in the Nigerian banking sector were ignored.

To this end, Ajibo (2015) and Fadun (2013) recommend future studies on the adoption and implementation of ERM in Nigeria. Additionally, there is a need to conduct such a study in developing country like Nigeria to ensure alignment of the local environmental peculiarities such as the regularity compliance, good corporate governance and motivation for ERM adoption. Therefore, none of these work examined the moderating effect of board characteristics and the stage of ERM implementation in the Nigerian banks; hence, the justification for the present research.

In view of the above, the primary objective of this study is to examine the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation. The study further examined the effect of the antecedents on the stage of ERM implementation. Similarly, the research also examined the current state of ERM practices and determined the stage of its implementation in the Nigerian banking sector. This study is the first known
empirical research that examined this set of combination of variables in the Nigerian banking sector.

Finally, the research contributes to the existing literature on risk management by developing a model that could enhance the implementation of ERM practices in the Nigerian banking sector. The introduction of some new independent variables such as internal audit effectiveness, human resource competency and the evaluation of the role of the Board of Directors and the moderating effect on the antecedents for ERM adoption is a significant contribution to the body of knowledge. Thus, the proposed theoretical framework for this study may be a useful tool for academics to understand these antecedents in the future and improve on them while the practioners may adopt it as a standard of best practices in the banking sector. To address the issues highlighted above, the following objectives are stated.

1.3 Research Objectives Universiti Utara Malaysia

The main objective of this study is to examine the moderating role of board characteristics on the effect of antecedents on the stage of enterprise risk management implementation. The specific objectives include the following:

- 1. To examine the current state of ERM practices in the Nigerian banking sector
- 2. To determine the stage of ERM implementation in the Nigerian banking sector.
- 3. To examine the effect of the antecedents (regulatory influences; internal audit effectiveness; human resource competency and top management commitment) on the stage of ERM implementation in the Nigerian banking sector.
- 4. To evaluate the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation.

1.4 Research Questions

- 1. What is the current state of ERM practices in the Nigerian banking sector?
- 2. To what extent is the stage of ERM implementation in the Nigerian Bankingsector?
- 3. What is the effect of the antecedents (regulatory influences; internal audit effectiveness, human resource competency and top management commitment) on the stage of ERM implementation in the Nigerian banking sector?
- 4. To what extent do board characteristics moderate the effect of antecedents on the relationship between the antecedents and the stage of ERM implementation in the Nigerian banking sector?

1.5 Significance of the Study

The study on ERM implementation is important as ERM is regarded as the mastermind of a business performance. The significance of the study could be based on the aforementioned theoretical gap that could bring about enhanced performance of the banking industry through the implementation of ERM.

This study determined the stage of ERM implementation in the Nigerian banks and also, identified the antecedents of the stage of ERM implementation in the banking sector. The study further examined the effect of the antecedents on the stage of ERM implementation. It also evaluated the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation. The outcome of this research is crucial in many aspects that could contribute from academic, theoretical and practical perspectives to assist scholars, practitioners, and regulators. The result of the research has policy-making implications that could benefit regulators, policy makers, practitioners, academia, and institutional stakeholders. Therefore, the study fills a gap in the literature by empirically exploring the current stage of ERM implementation in the Nigerian banking sector. It further provided some valuable insights that could enhance board oversight functions which could lead to effective risk management practices in the Nigerian financial institutions and, thereby increase shareholder value.

1.5.1 Empirical and Theoretical Perspective

The present study contributes to the understanding and knowledge of risk management in developing countries, particularly Nigeria as most of the research conducted was in either developed countries or emerging economies (Chisasa & Young, 2013). A considerable number of research focus their attention on the aspects and features of ERM acceptance and implementation in both private and publicly listed companies and insurance while failing to examine the level of ERM implementation, particularly in the banking sector (Beasley *et al.*, 2005; Golshan & Rasid, 2012; Hoyt & Liebenberg, 2003; 2008; 2011; Kleffner *et al.*, 2003; Paape & Spekle, 2011; Pagach& Warr, 2011; Roslan & Dahan, 2013; Tekathen & Dechow, 2013; Yazid, Razali,& Hussin, 2012).

This study therefore evaluated the current state of ERM practices and also examined the stage of ERM implementation. It further examined the effect of the antecedents on the adoption of ERM in the Nigerian banking industry. The moderating effect of board characteristics on the relationship between the antecedents (regulatory influences; internal audit effectiveness; human resource competency and top management commitment) and the stage of ERM implementation has also been assessed by the study.

Moreover, the agency theory has not been extensively examined in developing countries, particularly in the Nigerian context, considering the differences in culture and environmental influences. Oh and Park (1997) opine that it is expedient to refine theories and methodologies to be more appropriate to a specific situation. This study also aligned with the finding of Ekanayake (2004) that claim that there is a scarcity of empirical research that test agency theory directly in a different cultural environment.

However, the agency theory is not sufficient to supply the necessary explanation for regulatory control support. The agency theory requires to be underpinned by the institutional theory to explain the rationale behind the statutory authority for the implementation of ERM processes. This proposition of a match between the agency theory and the institutional theory has been evaluated and found useful for explaining the predictor variables, hence, a theoretical contribution of the study to the body of knowledge.

There is still some ambiguity on the subject matter of ERM implementation which should be examined. Most studies that reviewed the antecedents of ERM implementation did not utilize the same collection of the variables in the present work. The introduction of board characteristics as a moderating variable as well as the addition of internal audit effectiveness and human resource competency as independent variables is a unique and new contribution to the body of knowledge. Furthermore, the survey contributes to Nigerian academics who are urging the integration of risk management practices across all levels of the bank's operations since there is limited research in that field. From the outcome of the work, the research also contributes more information to the knowledge and understanding of the most influential antecedents and the stage of ERM implementation in the Nigerian banks.

Prowse (1997) demonstrates that research on corporate governance particularly ERM practices applied to financial intermediaries especially banks, is indeed scarce. This opinion is also supported by several studies (Oman, 2001; Goswami, 2001; Arun &Turner, 2002). All the authors agreed that the subject of corporate governance in developing economies had recently received a lot of attention. Nevertheless, the ERM practices as required by Code of Corporate Governance for banks have been almost ignored by researchers. This lack of research efforts demands urgent intervention, which therefore justifies this study.

Indeed, banks are very opaque, and the information asymmetry and the agency problem particularly severe (Bolton, 2006). This also necessitates the study on the stage of ERM implementation in the Nigerian banks and testing of the moderating effect of board characteristics on the antecedents for ERM adoption. The banking industry is perceived to have a higher level of risk management practices than most industries because of the complexity and opacity of their businesses (Beasley *et al.*, 2005; Paape & Spekle, 2011).

Finally, this study serves as a motivation for other researchers who are interested in the field of risk management in developing countries and Nigeria in particular. They are expected to work towards examining and identifying other antecedents and the level of ERM implementation across organizations that can influence the adoption of ERM practices. Indeed, it contributes to academic discourse and literature in the area of auditing and accounting in general.

1.5.2 Practical Perspective

The motivation of this study is to improve bank performance and enhance value for shareholders. On the other hand, it fosters a platform for effective and efficient decision-making that could lead to transparency and accountability in corporate governance. The enormous contribution of this study in the area of ERM is the creation of an understanding of risk management that is critical to both public and private sectors at all levels. The contribution to the regulators, employees of the banks, the general public (depositors) and the stakeholders will assist them to identify, evaluate and mitigate risks that can prevent them from achieving their objectives.

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The research contributes to the Board of Directors, management, risk/audit committees, and internal and external auditors by assisting them in policy formulation, implementation and evaluation. The integration of risk management practices in the banking sector could facilitate effective decision-making that enhances efficiency and effectiveness to gain competitive advantage. This could ensure efficient service delivery and promotion of a high level of business practices to restore public trust and confidence and enhance shareholder value.

Furthermore, the findings of the research contribute to providing detail information about antecedents or determinants for ERM implementation in the Nigerian banks. This could make the supervisory and regulatory authorities to ensure compliance with rules and regulations. It would also enable them to enhance best banking practices and adopt a risk-based approach to supervision.

The study also contributes to an understanding of risk management that allows the Board of Directors and managers to evaluate the level of the banks' risk exposures. Thus, all necessary mitigating measures should be in place to identify, assess, evaluate, control and monitor all risks associated with globalization, industrialization, technology, diversification and competition. Consequently, the proposed framework may help the board and managers to enhance the current risk management practices in line with international best practices. This study would further enable the board and the management to manage effectively threats that could impact on the bank's objectives and exploit opportunities for competitive advantage.

Banks occupy a critical position in the economic development of any country such that its good or poor performance invariably influences the economy of that nation. Poor risk management may contribute to bank failures, which can increase public costs significantly and consequences as a result of their potential effect on any applicable system. Poor practices of ERM can also lead to losing of confidence in the capacity of a bank to effectively manage its assets and liabilities, primary deposits, which could in turn trigger a liquidity crisis.

Although researchers have conducted series of studies on ERM practices in the banks, they were conducted mostly in the context of developed and emerging economies. Based on the literature reviewed and to the best of the researcher's knowledge, only a few studies were conducted in the context of Nigerian banks. Due to the limited research on ERM practices in the Nigerian banking sector and with the recent dynamic transformation within the Nigerian banking industry, the present study aims to fill the existing gap in ERM literature.

Studies on ERM practices in banks are therefore important because banks play significant monitoring and governance roles for their stakeholders to safeguard their credit against corporate financial distress and bankruptcy. Additionally, the study focused only on banking industry because risk management issues and transparency issues are important in the banking sector. This is because of the significant role in providing loans to non-financial firms, in communicating the impact of monetary policy and in providing stability to the economy as a whole. The study, therefore, covers the antecedents of ERM implementation which include: regulatory influence, internal audit effectiveness, human resource competency, and top management commitment with board characteristics as a moderating variable.

1.6 Scope of the Study

The domain of this study in terms of a subject was to examine the current state of ERM practices in the banks and to determine the stage of ERM implementation and further, evaluates the effect of the antecedents on the stage of ERM implementation in the Nigerian banking sector. The role of the Board of Directors was also evaluated with respect to ERM deployment. The study also investigated the extent to which risk management has been implemented to determine whether there is complete implementation or partial implementation of the ERM process.Based on the extant literature reviewed and the issues highlighted in the problem statement which affect

the implementation of ERM, these precursors have been identified as influencing determinants for ERM adoption. They include; regulatory influence, internal audit effectiveness, human resource competency, top management commitment and board characteristics.

Therefore, the moderating effect of board characteristics on the relationship between the antecedents and stage of ERM implementation has been tested. Several studies used different characteristics of the Board of Directors: For example, Al-Matari, Al-Swidi, Fadzil, and Al-Matari (2012) examine the impact of board characteristics on firm performance from Non-financial Listed Companies in Kuwaiti Stock Exchange using independent variables such as CEO duality, COE tenure, audit committee size, board size and board composition while using the firm size and leverage as a control variables. The findingssupport the positive effects of CEO duality and audit committee size on ROA. However, secondary data was used for the study which influenced the decision for the selection of these board characteristics.

Similarly, Saleh, Iskandar, and Rahmat (2005) examine earnings management and board characteristics in Malaysia using five main characteristics of Board of Directors consisting of boardcomposition, board size, directors' ownership, number of directorships and duality status of the chairman and CEOs.The study used size, leverage and Performance as control variables. Likewise, Akpan and Amran (2014) examine the association between board characteristics and company performance (proxy by turnover). The study used 90 sampled firms listed on the Nigerian Stock Exchange (NSE) from 2010 to 2012. The variables used are: board size, board independence, board education, board equity, and board age, and board women. The study adopted quantitative approach using secondary data.

Various studies ((Beasley, 1996; Fama & Jensen, 1983; Golshan & Rasid, 2012; Pathan, 2009)tested the role of the board of Directors using different characteristics depending on the nature and scope of the study. Therefore, this study having reviewed the extant literature and conducted critical evaluation of the issues highlighted in the problem statement, selected the board characteristics essential elements in consideration of the Nigerian regulatory environment and its peculiarities (Code of Corporate Governance, 2011). They include board size, board independence, equity ownership, gender diversity, educational background, knowledge and experience. These features of the board have been tested and had mixed findings of the ERM implementation in the literature. The study adopted quantitative approach using survey.

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The banking sector is limited to the 21 commercial banks or money deposit banks (MDBs) registered in Nigeria as at the end of 2012 (CBN, 2012). However, other categories of banks excluded from the study include: the Development banks, Cooperative banks, and Finance houses. Others are Mortgage banks, Microfinance banks, and Discount houses because they are specialised banks and do not operate under the same guidelines with the MDBs. The choice of the banking sector is informed by the fact that the Code of Corporate Governance issued particularly by the CBN (2007; 2011) focuses on the commercial banks and the sustainability banking principles also applied to commercial banks.

Moreover, these banks are not facing the same level of risks and complexity of operation with non-commercial banks. Furthermore, they are also not widespread and diversified like the commercial banks and mostly operate under different guidelines by the CBN. Therefore, the focus of the monitoring or supervisory institutions is mainly to avoid a repeat of the past bitter experiences and enhance good corporate governance.

The population of this research covers the 21 commercial (MDBs) banks drawn from eight cities across the six Geo-political Zones of the country. This is an industry that is commonly used in previous research (Adeleye *et al.*, 2004; Ajibo, 2015; Fadun, 2013; Njogo, 2012; Owojori *et al.*, 2011) See Appendix 14 for Nigerian map showing the spread of the cities. The total branches of the banks constitute the population of the study, which is 5,634 (CBN, 2012). The respondents are categorised into top, middle and lower level managers of the banks. Therefore, the respondents are staff of risk management/internal control department, internal audit department and operational department both at the branch level as well as the head offices of the respective banks.

1.7 Definition of Key Terms

Generally, operationalization encompasses a process of clarifying abstract variables or ideas and translating them into specific and observable measures, hence descended the ladder of abstraction (De Vaus, 2011). De Vaus (2011) opine that operational definition denotes the observation to measure the variables or constructs. In this study the operational definition of ERM is given by Wang & Faber (2006) as a "scientifically integrated and control process of managing risks within an organization to ensure that its objectives are achieved to improve value creation activities for the shareholders and other stakeholders" (p.28). Based on extant literature, some terms have been identified and are operationally defined in line with the literature and the concept of ERM process. They include the following:

1.7.1. Stage of Enterprise Risk Management Implementation

The stage of ERM implementation refers to the current state or level of ERM process implementation in the organisation. It essentially means the current state of ERM practices in the Nigerian banks in terms of its maturity status.

1.7.2 Regulatory Influence

Regulatory influences are the pressures exerted by the regulatory authorities on organisations to improve risk management systems and risk reporting through a Code of Corporate Governance rules and regulations or voluntary professional bodies.

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1.7.3 Internal Audit Effectiveness

The internal audit effectiveness refers to the role of the internal auditor to achieve the set goals of the organization. It basically denotes the internal auditor's ability that enables the acquisition of results that are consistent with set objectives.

1.7.4 Human Resource Competency

Human resource competency refers to the knowledge, skill and abilities that a person may have which include professional qualification, education, training, experience and knowledge of the organization's operations.

1.7.5 Top Management Commitment

Top management is defined as the highest management team consisting of the CEO, executive directors, CFO, CRO, CAE and other senior management staff excluding non-executive directors and other board members.

1.7.6 Board Characteristics

The Board of Directors is a governing body that serves vital functions for organizations (Corbetta & Salvato, 2004). These include monitoring management on behalf of different shareholders and providing resources for the effective and efficient implementation of ERM. Board characteristics refers to the characteristics of the Board of Directors in terms of board size, independent directors, gender diversity, education and experience, separation of ownership and control, and some other elements not mentioned.

1.8 Organization of the Study Wersiti Utara Malaysia

The thesis consists of six chapters. Chapter one provides a summary of introduction and background of the study, including an overview. It also contained the statement of the problem, research questions, research objectives, significance, and scope of the study as well as definition of key terms.

Chapter two presents literature review in terms of the concept of risk, origin/development of risk management and ERM. It further consist of the Central Bank of Nigeria, risk management in the Nigerian banks, the Nigerian banks and Basel 11 Accord implementation, risk management, and the banking system. Other sections are ERM, antecedents of ERM, the identification of the antecedents of risk management practices and their application and the research gap.

Chapter three discussed the research framework and the underpinning theories. Other areas covered are, the development of research hypotheses for achieving the objectives of the study and their application to the study.

Chapter four provides the research methods. It mainly discussed the research design, method of data collection, population and sampling frame, questionnaire development and administration, operational definition of variables and pilot test. The chapter further considered the method of data analysis, binomial logistic regression, the research model and reliability and validation process.

Chapter five contained the data analysis and the research findings. The section particularly provides complete results and analysis of the study in the form of figures; tables or text so that the most relevant information are highlighted and discussed.

Finally, chapter six provides the summary of the key findings, recapitulation of the study, theoretical/empirical, managerial/practical and methodological implications, and the contribution of the study as well as its limitation. It also contained some recommendation for future research and provides a conclusion for the whole thesis.

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

Chapter one provides the background and the objective of the study while this chapter presents the literature review. Specifically, this chapter is split up into five broad sections. The first section provides an overview of risk management, which presents a brief historical background and its origin leading to the current status of Enterprise Risk Management (ERM). Likewise, the next section highlights the current risk management practices and the status of ERM implementation in the Nigerian banking industry. It further discussed the background of the Nigerian financial system, including the Central Bank of Nigeria (CBN) and the implementation of the Basel 11 Accord. Furthermore, the third section examined the antecedents of the ERM implementation including the moderating effect of Board characteristics in the Nigerian banks while the last section drew the conclusion.

The implementation of ERM in the financial institutions; particularly the banking sector has been an interesting area for many professionals, rating agencies, international organizations, researchers and faculty members. Therefore, there is a treasure of available literature on the subject matter. The task of choosing the relevant materials from the pool has been a difficult one, nevertheless; serious effort was made to scan the relevant literature in the context.

The primary source of literature has been articles published in Electronic Journals, in print Journals, reports from rating agencies, professional associations, textbooks, and database. Others include Central Bank of Nigeria (CBN) websites and commercial banks, laws, rules and regulations of governments, publications of companies engaged in risk management and regulatory and supervisory agencies. Others include circulars and publications of the CBN and other regulatory authorities. However, the documents must be relevant and useful to the area that was synthesized and constitutes a gap in this study.

2.2 Overview of Risk Management

Risk management is an integrated process which involves all structures and the various components of the enterprise with a clearly defined steps and benchmark which, if properly put through, supports decision making of the business by highlighting risk exposures and their effects on the entity. This will enable the organization take necessary mitigating measures to minimize the shock of such risks or exploit the opportunity associated with the occurrence. This requires the cognitive process of identifying, evaluating, treating, communicating and monitoring all risks associated with any function, procedure or activity that could hinder the achievement of the purposes of the firm.

Risk management requires the foundation of risk culture awareness across the system to assure that it becomes everybody's business. This can be made possible by integrating risk management in the philosophy and activities within the firm rather than managing risks as a separate program in individual units or sections. Indeed, the target of implementing ERM practices in the banks is to improve efficiency and performance thereby adding value to the stockholders. This has influenced the rise of ERM to the extent that it has filled an important place on the agenda of managers, practitioners and academia across the world. Every system needs to understand the types of risk to take in the process of accomplishing the objectives of the entity in order to achieve the desired reward.

The Institute of Risk Management (IRM) postulates that an organization should recognize the overall level of risk to entrench in their natural actions and operations. Thus, it is necessary for commercial enterprises to identify and rank significant risks, and to ensure the fragile critical controls within the system improves organizational performance.

2.2.1 Concept of Risk

Risk is part of human life. Indeed, every creature must always and continuously assess the dynamic environment within which they earn their living, collect and process appropriate and relevant information and develop a system for adapting to the changing conditions. There are many definitions of risk (Shimpi, 2001). The definitions of risk vary, but the risk has two components: uncertainty and results. The definition of risk can be in terms of its impact either positive or negative on objectives (Damodaran, 2012; Hillson & Murray-Webster, 2004).

The definition of risk has a relation with an unexpected result and bad or good outcome depending on the probability of the occurrence or non-occurrence of the result (Sadgrove, 2015). The Australian and New Zealand Risk Management Standards (1999) define risk as the likelihood of occurrence of an event that will impact on the objectives of the firm. Athearn, Pritchett, and Schmit (1984) define risk as a condition in which there is the probability of making a loss or losses.

On the other hand, DeLoach (2000) see risk as the distribution of possible outcomes within the organizational structure and a system over a period as a result of increasing changes within the critical control variables. It is, therefore, difficult to provide an individual definition of risk because the context of risk is diverse and is also subject to different interpretations. For example, in Actuarial study, it gives a statistical analysis of risk definition while in Insurance; it is used to describe the subject of peril or policy that is under cover of the contract.

Despite the fact that there is no general definition of risk, Renn (1998) argues that all concepts of risk have one thing in common: that is, the distinction between possibility and reality. The author states that if the future can be predetermined or independent of the influence of human activities, then, the word risk would make no meaning and purpose at all because there is no uncertainty. Risk has now become an issue for research and understood as complex social problems that have attracted divergent views and opinions from a variety of stakeholders. Today, a great number of risk researchers direct their focus on contextual aspects and changes on the stakeholders at different societal levels which also go beyond borders in a globalized world.

Cassidy, Goldstein, Johnson, Mattie, and Morley (2001) provide a definition of risk in three perspectives. The authors viewed risk in the first instance representing the view of the traditional risk managers. Secondly, a risk is seen as uncertainty from the point of view of the chief finance officer and operational managers. Thirdly, a risk is considered as an opportunity from the perspective of senior management and the cross sectional staff that have the responsibility for the external risk elements. Crockford (2005) postulates "risk as a function of development and risk management as a tool or method for coping with the effect of change". Risk is now managed proactively on the offensive instead of treating it on the defensive that is either minimized or avoided. In the last few years, risk has been treated as "the valuecreating potential". This will facilitate the exchange of expertise in risk mitigation. Similarly, threats can manifest through multiple perceptions in normal business operations; therefore, an organization needs to identify all risks manifesting in their operations, so as to mitigate the impact of such risk.

2.2.2 Development of Risk Management

Risk management is not a new idea as it has been in existence for thousands of years (Bernstein & Peter, 1996). However, the rise of formal risk management came with its publication in Business Harvard Review in 1956 by Russell Gallagher. Dickinson (2001) note that in the 1970s, business enterprises started exploring how best to manage the various financial risks such as changes in interest rates, exchange rates, stock prices and commodity prices, hence, the development of financial risks management as a formal system. Then, businesses transfer risks related to accidents, human error, fraud and natural catastrophes through insurance companies (Dickson, 2001). The management of these risks is meant to reduce the impact on the business that brought a wider approach to the management of insurable risks.

While in the 1980s, as a result of international diversification and globalization, the multinational corporations began to face challenges of political risk because of different political regimes in various countries. As a consequence of any new government policy that influences both investors and organizations to make the

decision to control risk. Furthermore, in the 1990s, the United States used business tools such as forwards and futures. Related to this, is the pressure from the shareholders and stakeholders requiring the managers to be proactive in managing the risk that relates to loss or unnecessary financial crisis instead of just buying insurance. Skipper and Kwon (2007) argued that risk management was then closely associated with financial, operational and strategic risks and not hazard risks.

Consequently, risk management has been defined by different people and in a different context, depending on the purpose and the environment. From the literature, there are varied definitions of risk management. D'Arcy (2001) defines risk management as the degree to which results may differ from the set goals or the extent they fail to achieve the corporate objectives. The researcher further identified several factors that may impact on the companies not to achieve its strategic objectives. They are internal and external factors. The internal factors result from human errors, system failure, fraud, and disruption of production. Some of the external factors identified include a new entrance into the market, new product development and change of consumer tastes. Others include changes in capital, financial market conditions, changes in the economy, and changes in the political, technological, legal, demographic and other environmental factors that were mostly beyond management control.

Several authors have offered many other definitions as follows. Dickson and Hastings (1989) define risk management as the identification, analysis and economic control of those hazards that threaten the organization or it's earning capacity. Valsamakis, Du Toit, and Vivian (2005) see risk management as a managerial role that protects the

business, its people, assets and profits for the results (adverse) of pure risk. Risk management does not operate in isolation rather it's associated with other disciplines or department within an organization. Examples include; human resource management, information technology, operating system management, law and legal counsel, and financial management.

Risk management is a process that involves the system of identifying, evaluating, planning, and managing risks (D'Arcy, 2001). This process involves risk identification, risk assessment, risk measurement, development and choice of the approach and implements risk management procedure and monitor the outcomes. The primary method of traditional risk management (TRM) is to avoid risk, reduce risk, retain the risk and transfer risk. The dominant system or method used in TRM is risk transfer through insurance. Later, the risk management policies and new risk financing products were integrated combining both insurance and finance, but that was found inadequate to handle all types of company risks (Casualty Actuarial Society, 2003).

Sequel to the level of awareness of the limitation of the TRM capabilities of the present day business environment, many corporations began to expand their traditional approach to risk management and then, to Enterprise Risk Management (ERM) approach. Enterprise Risk Management is a new approach to risk management which evaluates the mission, vision and strategies of the business (Whitfield, 2003). A transformation from the TRM approach to ERM system is called as a paradigm shift (Hoyt & Liebenberg, 2006; Manab & Kassim, 2012). A paradigm shift is a situation whereby companies are moving toward ERM development through the expansion of

the risk management concept, methodologies and techniques (KPMG, 2002). The development and transition of risk management provide a significant trend towards a new knowledge with respect to risk management for both the industries and academics.

The primary purpose of ERM is to identify all risks that can hinder the performance of the business. It utilizes opportunities to improve the activities and functions of an organization efficiently and effectively. Enterprise Risk Management supports the planning process in an enterprise by developing plans to mitigate and manage risks to have control over business activities. Enterprise Risk Management is a mechanism to help ensure that policy issues such as statutory requirements; procedures and legislation are enforced to protect the company from loss and threats of prosecution. The primary focus of ERM is to minimize or eliminate losses that could result from individual, property and business activities and actions. In this respect, business has realized the importance of managing risk on an enterprise wide basis.

Slywotzky and Drzik (2005) argue that the practice of risk management has a limit in scope and does not conform to the prescriptions of academic literature. The author suggests that the practice puts much emphasis on hedging transaction exposures and hedge ratios of the firm that depends on the opinion of the company managers instead of the shareholders. The traditional view of risk is negative from the perspective of loss, harm, hazard and adverse consequences. However, the ERM practices consider the "upside risk" or opportunity associated with an uncertainty that can be beneficial to the performance of the objectives of the firm.

The traditional approach manages threats instead of opportunity that is inbuilt in the current risk standard. Threat and opportunity are part of the ERM process (Hillson, 2002). Alternative risk financing through insurance have long been in existence (Doherty, 2000). However, those businesses have been hindered by drawbacks in traditional approaches to risk management. Traditional methods view risks as a process that consist of the series of single and isolated elements in which individual risks are categorized and managed separately (Hoyt & Liebenberg, 2011).

Therefore, ERM has now become an important issue for the company, industries, and the academic, broader in scope and have been included in corporate philosophy (Kleffner *et al.*, 2003). The Committee of Sponsoring Organization of the Treadway Commission (COSO) vision of focusing on risk management integration has become a standard practices across the world (Sarens, de Visscher, & Van Gils, 2010). Traditionally, risk management provides assurances to management that risks are properly being managed. However, ERM principles go beyond this. The fundamental principle of ERM is broader than just a system of adequate controls.

An empirical research by Meulbroek (2002) identified the risks that are faced by the firm and affect its performance. These include operational risk, product risk, input risk, financial risk, tax risk, legal risk and regulatory risk. In the same vein, the Basel Committee (2008) defines operational risk as the risk resulting from direct or indirect loss that result from insufficient or failed internal procedure, structures and people or outside happenings. Therefore, the relevance of ERM practices to improve performance and enhance shareholder value is imperative.

2.2.3 Enterprise Risk Management

The development of ERM as a concept and management function among business organizations since the mid-1990s has a tremendous impact on their operations (Dickson, 2001). Dickson (2001) views ERM as a logical and integrated approach for a firm to manage the total risks it faces. There are many definitions of ERM, which have been accepted (Wang & Faber, 2006). For example, Perrin (2002) defined ERM as:

"A rigorous approach to assessing and addressing the risks from all sources that threaten the achievement of an organization's strategic goal. An enterprise risk management identifies those risks that present corresponding opportunities to exploit for competitive advantage" (p. 4).

Similarly, COSO (2004) defines ERM as:

"Process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance of entity objectives" (p. 12).

The COSO framework emphasizes the significance of board's participation in risk management and, in fact, the decision for its deployment commences at the board level. The COSO also acknowledges the importance of internal controls and organizational infrastructure for the execution of the risk management functions. The COSO framework has made a significant impact on ERM implementation. It has also drawn heavy blame for its prejudice toward risk control, audit, and avoidance as well as a box-ticking approach to ERM (Huber & Scheytt, 2013; Power, 2009).

Wang and Faber (2006) define ERM as a discipline of studying the risk dynamics of an organization, the interactions of internal/external forces, and the way of players' actions. It focuses on the goal of improving the performance and resiliency of the system. The ultimate goal of ERM does not only concern value preservation, but also value creation (Wang & Faber, 2006). Enterprise Risk Management is an approach that links risk management practices with strategy and objective-setting that dominates the critical issue of control, accountability, and decision-making (Wang & Faber, 2006). In this study, ERM is defined as a scientifically integrated and control process of managing risks within an organization to ensure that its objectives are achieved to improve value creation activities for the shareholders and other stakeholders.

The practice of risk management has been in existence for a long time by organizations in different contexts. Thus, the management activities of organizing, coordinating, planning, managing and directing have been an important part of ERM practices. The process of identifying, prioritizing and treating risks has also been a common practice among businesses (Ciocoiu, Dobrea, & Berea, 2009). Enterprise Risk Management is now put on the top agenda of the international community. A holistic and integrated approach to the treatment of risk has now been practiced instead of traditional (silo) risk treatment of risk transfer through insurance or other financial products.

The main purpose of ERM is focusing planning and coordination of resources that are vital to get an economic balance and effective stability as soon as the risk has occurred. The achievement of this is possible through an integrated approach to risk management on an enterprise wide basis. There are some underlying factors that brought about the emergence of ERM as a control mechanism. They are part of the challenges faced by businesses in their daily operations and interactions. Some of the

risk factors include financial risk, operational risk, information security risk, technology risk, strategic risk, legal risk, political risk, human capital risk and reputational risk.

Nevertheless, most of the literature identified only four risk factors that include financial, operational, and strategic and hazard (CAS, 2003; D'Arcy, 2001; Razali & Tahir, 2011). Enterprise Risk Management also exists in planning, leading, managing and organizing activities that could mitigate significant risks associated with financial risk, operational risks, and strategic risk (Cassidy, 2005).

Skipper and Kwon (2007) suggest that adopting ERM in organizations requires an ERM committee, in which senior management and members of the Board of Directors prioritize necessary steps to set goals first. Many companies that have implemented ERM have integrated a holistic approach that is complex in structure and creating processes for identifying, measuring and managing ERM holistically for improving performance (Gordon *et al.*, 2009).

Therefore, ERM is a complete process, collective and consistent approach rather than merely managing only hazard or business risk (Davenport & Bradley, 2001). Enterprise Risk Management controls all risks being faced by the company that includes hazard, financial, strategic and operational risk (D`Arcy, 2001; Walker, Shenkir & Barton, 2002). Similarly, ERM also handles insurable and uninsurable risks. Operational risk and strategic risks are uncontrollable and uninsurable while hazard and financial risks are considered to be manageable and insurable (Beneda, 2005). In the last few years, financial risk, strategic risk and operational risk have become more significant than hazard risk and have more impact on organizational performance and shareholder value (CAS, 2003).

KPMG International (2008) identifies four main reasons why US firms adopt ERM. The reasons include the following; the business aspiration to lessen possible financial loss (68 percent), the organizational goal to increase business performance (64 percent), as a result of regulatory compliance requirement (58 percent) and the aspiration to promote risk accountability. Likewise, PricewaterhouseCoopers (2008) examined the reasons why companies implement ERM in Finland. The findings reveal that ERM implementation was due to the following reasons; desire to adopt good business practices (96 percent), due to corporate governance pressure (81 percent), desire for competitive advantage (42 percent) and the impact of regulatory pressure, and investment community pressure (30 percent).

A study by Ernst and Young (2010), on risk governance surveyed top management of more than 40 international banks. The finding shows that only 14 percent of the respondents stated that they have a robust risk management process in their organizations. The firm further advances that the vast majority of banks needs ERM. The study also shows that the recent global financial crisis has revealed the inherent weakness in ERM. There is so much pressure on the banks to consolidate their risk management process, improve the connectivity between risk and finance functions as well as auditing, and to ensure that risk culture has become a top priority. The researcher further identified the main barriers to risk management implementation. They include the spill over effect of the TRM system (silo), inadequate forecasting,

lack of sufficient resources and ineffective decision-making and absence of transparent financial reporting.

Some studies documents that ERM requires high-level corporate governance (Al-Tamimi & Al-Mazrooei, 2007). Enterprise Risk Management is much more important in the financial sector, particularly the banking than other industries. The banks have more complexity and the opaque nature of their businesses (Beasley *et al.*, 2005; Kleffner *et al.*, 2003). They also face risks associated with technology, human capital, reputation, regulatory power, globalization, and diversification since they are operating in a volatile environment (Carey, 2001). These factors generate both pure and speculative risks that have an impact on business performance. Thus, to attain the company's objectives, the risk has to be managed or controlled in a systematic way across the firm.

Fadun (2013) suggests that the decision to implement ERM commences in the boardroom and gains support and commitment from top management in order to influence the manner firms' should think positively about risk and plan for eventualities. It also provides how managers should integrate ERM holistically into their firm's philosophy, practices, and strategic plans, rather than being seen or practiced as a separate or in" silo" program. Failure to develop the risk management process can result in a severe financial loss as well as damage to reputation (Owojori *et al.*, 2011). Several studies lend support to the value addition of ERM and its promotion of organizational performance (COSO, 2004; Golshan & Rasid, 2012; Hoyt & Liebenberg, 2009; Lam, 2003; Nocco & Stulz, 2006). Shenkir and Walker

(2006) suggest that the adoption of ERM requires executive management commitment and support to enhance effective implementation.

Similarly, another study by Ernst and Young (2008) finds that among 439 leading European firms that responded, 76 percent had defined a risk management policy, but many were still working on its implementation. Of those taking risks, 52 percent were taking the "widest possible" view of risks while 31 percent were looking at only operational risks, and 15 percent were considering only insurable risks. These studies were, however, conducted in developed and Western countries that have different culture and environments from the developing countries.

There is a general recognition of the concept of ERM as an essential element of corporate governance though many organizations differ in the level in which they have adopted ERM (Paape & Spekle, 2011). Some organizations, especially the banking sector have made massive investments in sophisticated ERM systems while others rely on outsourcing arrangement whenever risks become manifest. However, many organisations are not adopting ERM process and little is known about why they are not implementing it.

The current global financial crisis has emphasized the importance of ERM (Coskun, 2012). Enterprise Risk Management is the same as Corporate Risk Management, Integrated Risk Management, Holistic Risk Management, Strategic Risk Management, Business Risk Management and Enterprise-Wide Risk Management (Gupta *et al.*, 2004; Hoyt & Liebenberg, 2006; Manab & Kassim, 2012).

Enterprise Risk Management is a potential profit making opportunity rather than threats that can be entirely eliminated and the decision for ERM deployment now rests with the Board of Directors instead of an insurance risk manager (D'Arcy, 2001; Kawamoto, 2001). A study by Boniface and Ibe (2012) examine risk management and performance in the Nigerian Brewery Industry. The finding reveals that ERM enhances performance of firms in the industry and recommends that the industry should continue to implement ERM as a tool for improving organizational performance and further recommend adoption in other businesses.

Nielson, Kleffner and Lee (2005) assert that ERM practices have come of age over the past few years, effecting a dramatic change in the communication channels which in turn affects the changing faces of risks. Risk culture should, therefore, eminent from the top down and bottom up approaches to create risk awareness culture. Despite the practices of ERM in business for many years, it is still an emerging discipline that has recently gained popularity among companies and the academic community (Wang & Faber, 2006).

However, Power (2009) criticized the role that risk management played, especially during the world financial crisis and notes that an impoverished conception of" risk appetite" is seen as part of the "Intellectual failure." The author opined that the risk management of everything has now become "risk management of nothing". Tekathen and Dechow (2013) find that ERM does not focus on improving the performance or enhances accountability, but strengthen the process of risk identification and improve the quest for accountability.

Quon, Zeghal, and Maingo (2012) examined the relationship between ERM and firm performance and finds that ERM information failed to predict or have any significant impact on business performance. The paper by Huber and Scheytt (2013) surveyed conceptually why the rise of ERM even in the face of its evident failure during the financial crisis. These findings have created room for inconsistencies in the results of several studies that find ERM promoting organizational performance and enhancing shareholder value, hence; creating mixed findings which warrant further research.

Pierce and Sweeney (2005) however, argued that ERM is the cornerstone of good governance, which can improve business performance with the resultant effect of better service to the customer, more efficient utilization of resources and enhanced risk management practices that will assist to minimize waste, fraud and poor value for the money decision-making. Therefore, the successful implementation of ERM and internal control systems in line with international best practices and frameworks like the COSO will positively impact on the overall performance of the business.

The COSO upgraded its first internal control framework in 2004. The structure was published by COSO in 1992 as an internal control framework. COSO Framework later became a benchmark for companies that aimed at improving organizational internal control systems (Gupta & Thomson, 2006). Nevertheless, another framework that made impact on ERM positioning is the ISO 31000:2009. This framework contained a systematic process for managing risk. It can be used by any organization regardless of its size, activity or sector.

The application of ISO 31000 can support organizations increase the likelihood of attaining objectives, increase the identification of opportunities and threats, and the effective allocation and application of resources for risk treatment. Internal control involves keeping the business under control through control activities such as policies, procedures, performance measures, and segregation of duties while ERM is more linked with strategic decision –making (Sarens *et al.*, 2010).

Widespread interest in corporate governance, risk management and bank performance were sparked off by the US Sarbanes-Oxley Act (SOX) and the requirement for US listed companies to put in place and implement appropriate governance controls to ensure compliance with SOX for improving operational decision making and performance, warranted the growing involvement in risk management across the globe (Sarens & De Beelde, 2006). The interconnectivity between corporate governance, risk management, and compliance (GRC) with rules and regulations as it relates to banks are considered as an umbrella word that covers an organization's approach to managing the relationships between these three concepts. Corporate governance, risk management and bank performance are intimately related concerns which are increasingly being aligned together for the purpose of assessment and avoid conflicts, wasteful overlaps and gaps in overall management of the business (COSO, 2004; Gupta & Thomson, 2006).

Corporate boards globally have been attracting a great deal of attention in the past years because of corporate failures and concerns around the functioning of corporations and the manner they are regulated. Ahmad (2014) suggests that ERM is a critical part of the corporate system. The Code of Corporate Governance apparently split out the guidelines for the Board of Directors to adequately perform their duties concerning monitoring role, even using internal or external monitoring mechanisms such as auditors.

Due to the new challenges of the global economy, it is necessary to evaluate the type of characteristics of the Board of Directors and top management possess. Board characteristics significantly affect the performance and the level of corporate governance practices of an organization (Wong & Bajuri, 2013). Top management is now under increased pressure to improve on their internal risk control systems (Dickinson, 2001). Increasing the competitiveness of an organization's workforce, including the Board of Directors and top management enhances higher opportunities of being successful. Competency level of the Board of Directors and top management will enable them exploit opportunities and minimize threats associated with risks for the benefit of the bank particularly enhancing competitive advantage.

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Banham (2004), Goodwin-Stewart and Kent (2006) and IIA (2004) note that the scope of internal audit involvement in ERM has been the subject of debate and is the current issue of controversy. It is argued that the internal audit function plays a significant role in overseeing all eight components of the COSO ERM Framework, given the internal audit's professional focus on risks and controls. Therefore, there is no accurate method or "silver bullet" for the role of internal audit in ERM (Walker,Shenkir, & Barton 2002). Internal audit should offer consultation and challenge or lend support to management's decisions on risk, as against making ERM decisions.

The Institute of Internal Auditors (IIA, 2004), also regards ERM as a crucial part of the internal auditing profession. The International Accounting Standard Board (IASB, 2006) offers a provision that internal audit professional standards should adopt a risk-based approach. Thus, the internal audit function has an important involvement in the ERM process, as this has effects on internal audit's professional responsibilities. Beasley *et al.* (2006) examine the relationship between ERM and internal auditing. The finding suggests that the impact of internal audit function on ERM deployment is influenced by the company's level of ERM development, the degree or distinct assertions for internal audit's involvement in ERM and the tenure of the company's chief audit executive (CAE).

The increasing attention devoted to corporate governance and the continuous changing role of the auditors influences the changing responsibility of the internal audit function especially as it affects ERM. Beasley *et al.* (2006) agreed with the definition of the internal audit function given by IIA (2010) that the use of the internal auditor has moved from assurance activities to more active role of value added actions. This clearly shows a positive and collaborating role on essential topics of corporate governance that include risk management and internal control. The role of internal auditing is both helpful and practical in strengthening the governance mechanisms (IIA, 2007).

This implies that the value of internal audit as an ingredient of the governance mechanism is entirely at the operational level and not at the "higher level of oversight structures. Beasley *et al.* (2006) indicates that in contrast to the past response to corporate scandals, a number of people are banking on the internal audit as a way out

of the problems of control, ethics and reporting on corporate governance. A routine of surveys have been borne on the relationship between internal audits, internal control and risk management (Badara & Saidin, 2013; Beasley *et al.*, 2006; Cohen & Sayag, 2010; Fraser & Henry, 2007; Sarens *et al.*, 2010; Song & Kemp, 2013). These studies have clearly defined and supported the dynamic role of the internal auditor with respect to ERM implementation as enshrined in the internal audit professional standards.

Global concerns about risk exposures have been increasing. In this arena, enterprises of all kinds and sizes want robust ERM frameworks that satisfy compliance demands, contribute to better decision making, and enhance performance. Violations or non-conformance to laws, rules, regulations, ethical standards, and policies can jeopardize earnings, capital, and reputation of the organisation. Current pressures to provide strong and sustainable risk-adjusted returns on capital influence financial companies to invest in improved approaches for measuring risks (Embrechts, Furrer, & Kaufmann, 2003; Kuritzkes, Schuermann, & Weiner, 2003).

It is clear that managing risk in "silo" or units creates inefficiencies as a consequence of lack of coordination between the various units or sections. Enterprise Risk Management supporters advocate that the integration of ERM into the decisionmaking procedure of the firm will eliminate duplication of risk management expenses by taking advantage of natural hedges. The carrying out of ERM across companies will extend a fair foundation for resource allocation, thereby enhancing capital efficiency and return on equity (Mikes, 2009). The initiatives that achieve ERM should recognize the total risk characteristics in different corporate projects (Hoyt & Liebenberg, 2011). Firms with wider investment opportunities are more probable to gain from ERM implementation because their choice will be based on a more accurate risk-adjusted rate that is available under the TRM (Meulbroek, 2002).

A TRM approach that is silo-based can create problems of risk measurement and goal achievement (D'Arcy, 2001). This could result in uncoordinated risk management activities, overlapping in insurance coverage and ineffective alignment with organizational objectives (Ernst & Young, 2001). The risk management has now transformed from risk mitigation to risk portfolio management (KPMG, 2002). Other origin of the value attributed to ERM programs is the improved disclosure of data about the company's risk profile. In contrast to the TRM whereby there is information asymmetry between the director and the Board of Directors. Enterprise Risk Management serves to shorten the anticipated costs of regulatory examination and outside capitalization (Meulbrock, 2002). The ERM is an approach that increases the effort to organize uncertainty (Mikes, 2009).

The TRM considers pure risk mostly while ERM considers all risks faced by the business. Enterprise Risk Management recognizes the downside outcomes and the interactions among such risks that help to reduce the total risks faced by the firms concerned. The TRM is not proactive, incomplete and very ineffective (Schneier & Miccolis, 1998). Nevertheless, there is a similarity between the fundamental processes of TRM and ERM in the sense that ERM process "consist of the activities performed by people and supported by tools and technology that are designed to achieve one or more specified business objectives" (Deloach, 2000).
Both concepts use people, tools and techniques in achieving their strategic goals even though in a slightly different approach.

2.3 Risk Management in the Nigerian Banking Sector

The worldwide economic crisis affected the Nigerian economy in some ways. The economy has had some external and internal shocks in recent years, which affected the banking sector. There was a drop in oil prices and followed by currency devaluation in 2008. The drop in oil price has put more stress on the commercial banks while the Nigeria Stock Exchange (NSE) collapse adversely affected the banks visibility to marginal lending. The banking sector became depressed in 2009 but large buffers, set up before the planetary crisis, and small debt, assisted to mitigate the force of the shocks by providing an opportunity for expansionary fiscal policy. The supervisory authorities tightened monetary policy in 2011 after an upsurge in inflation and a deterioration in international reserves in 2010 (CBN, 2010; Owojori *et al.*, 2011). The primary purpose of the financial sector is to mobilize funds from people or organizations with surpluses to agents that are in deficits.

The Central Bank of Nigeria (CBN) is the Apex bank and the central regulatory and supervisory authority over the banking sector. According to Middle Africa, Insight Series Investment dated 24th, May 2013, the Nigerian banking sector, worth USD126bn in assets as at 2012. It occupied the highest position in Middle Africa (MIA) and accounted for 45.11percent of the MIA's total asset base. At the commencement of the 2008/09 banking crisis, the drastic reforms instituted by the Apex Bank restored confidence and returned the sector to normalcy (Middle Africa, 2013).

Several studies have been conducted on ERM in the banking industry. A typical example is the study conducted by Chisasa and Young (2013) that examined the implementation status of operational risk management in developing markets about Basel 11 implementation. The study used 22 employees of the South African commercial bank to assess the level of staff preparedness for the implementation of ERM. The results show a lack of knowledge in the assembly of risk information and the application of risk models. The research also suggests the need for more commitment of time and financial resources to enhance capacity building and team skills of the banks to ensure compliance with regulatory requirements of the Basel Accord. However, the sample size is inadequate for a meaningful conclusion as it is only 22 employees. Additionally, Rahman *et al.* (2013) examined the ERM in financial institutions and found positive relationships between ERM and bank performance.

Another study conducted by Njogo (2012) examined risk management practices in the banking sector of Nigeria and document that the banking industry is a highly controlled industry with a high level of leverage that is related to high risk. Hence, the banks require a high degree of risk management practices. Therefore, this calls for more intensive and efficient ERM implementation in the banking sector. There have been marked differences in the level of ERM implementation across different industries and organizations depending on the driving force for ERM adoption (Ciocoiu *et al.*, 2009). Future studies are therefore needed to test the level of ERM implementation in different settings and recognizing environmental influences in the choice of variables.

2.3.1 Central Bank of Nigeria

Solomon (2013) defines the Central Bank as a public institution charged with the responsibility of issuing currency, control the money supply, and regulate the prevailing interest rates in the country. Central Banks conduct oversight functions over the commercial banking system of their respective countries. The Central Bank possesses a control on printing the national currency, which serves as the country's legal tender. Examples of the Central bank include the European Central Bank (ECB), the Federal Reserve of the United States, Federal Reserve Bank of South Africa and the People's Bank of China. Others are Central Bank of Japan, the Reserve Bank of India, Central Bank (Bank Negara) of Malaysia and Central Bank of Nigeria (CBN). Central banks perform similar functions of, controlling the nation's entire money supply and implementing monetary policies (Solomon, 2013).

The CBN enhances the financial system efficiencies, which plays the role of the regulator, and a supervisor. Various measures and policies aimed at achieving this goal are being adopted. The CBN revised the2007 Act in 2011 which was enacted by the Federal Republic of Nigeria and charged the Apex bank with the total control and administration of the economic and monetary policies of the Federal Government of Nigeria.

Accordingly, the CBN was also assigned the responsibility of managing the Banking sector under the Banks and other Financial Institutions Act (BOFI, 1991). The primary objective is to promote the high principles of banking practices, and the entrenchment of financial stability. The CBN is also responsible for the support of an efficient payment system. Also to its core functions, the CBN had over the years

performed some major developing functions in agriculture, finance, and industries. The CBN and National Deposit Insurance Corporation (NDIC) further issued circulars, guidelines, rules and regulations in the exercise of its powers under the legislation.

In 1986, the Federal government of Nigeria carried out structural adjustment program (SAP) in which the CBN initiated an extensive reform of the financial system (Adegbite, 2010; Ikhide & Alawode, 2001). Besides, the key financial sector reform policies of interest and exchange rate deregulation, there are also other measures that the CBN is to ensure the accelerated development of the banking sector. These include reinforcement of the regulatory and supervisory authorities, the establishment of the National Deposit Insurance Corporation (NDIC), capital market deregulation, upward review of capital adequacy standards, and the introduction of indirect monetary policy instruments. Also, the banks of Government were also privatized.

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Solomon (2013) notesanother reform 1999-2005 of the financial system resulted in the increase of the capital base of banks and insurance and enhanced the monitoring system. There was an increase in banks capital base from N1 billion in 2001 to a minimum of N25billion in 2005. The insurance companies were also made to recapitalize from minimum of N20million (Solomon, 2013; Soludo, 2006) to N2 billion in the same year. The importance of these reforms was to check the inflation rate, and control volume of money in circulation. It also meant at increasing market competition and increased the asset quality.

2.3.2 The Nigerian Banks and Implementation of the Basel 11 Accord

Basel 11 is a recommendation on the banking laws and regulations issued by the Basel Committee on Banking Supervision (Saidenberg & Schuermann, 2003). Basel 11 is the second of the Basel Accords after Basel 1 but now superseded by Basel 111 Accord. The implementation of Basel 11 in 2004 was for the purpose of creating international standards for banking. The primary objective of the Basel 11 Accord is to inspire better and more systematic risk management practices, particularly in the aspects of credit risk. Another goal of the Basel 11 is to keep the overall level of capital in the banking system from significant volatility while assuming the same degree of risk (Saidenberg & Schuermann, 2003).

The primary aim of the New Basel Capital Accord (Basel II) is to put in place a mechanism to ensure the soundness and stability of the world international banking system. The Basel Committee on banking can achieve this by influencing banks to adopt standard practices in their risk management systems. The implementation of Basel Accord mechanism is indeed a remarkable development since the banks have now seen the need to incorporate risk exposures into capital allocation, thereby enhancing transparency (Griffith-Jones & Gottschalk, 2006). The primary focus of the Basel Accord is to improve risk management practices and improve banking regulation and supervision across the globe. The Accord encompasses relevant issues that relate to risk management and banking supervision and further provides a golden opportunity to raise the level of management and supervisory standards (Saidenberg & Schuermann, 2003).

Kaur and Kapoor (2011) suggest that the turbulent financial and regulatory setting has increased the significance and the role of the banking industry. Basel 11 Accord structure has become the cornerstone of international business structural design that has a strong emphasis on risk management and current development in risk assessment capabilities of banks. More than 100 countries have implemented this most popular framework across the globe (Balin, 2008; Kaur & Kapoor, 2012).

The structure has become a world standard and has made significant progress to date by influencing high professional standard practices and worldwide participation by many countries. However, the complex requirements of Basel Accord make its implementation an extremely complicated matter. Nonetheless, the successful implementation of the Basel 11 could benefit better risk management and more efficient use of their capital, thereby promoting bank performance and enhance shareholder value (KPMG, 2002).

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Accordingly, Sanusi (2012), former Nigerian CBN Governor stated that the rescued banks should improve on their risk management practices. The CBN Governor further recommends that the managers of the banks should also enhance their productive capacity and capability (Kolapo *et al.*, 2012). Kolapo *et al.* (2012) report that Standard and Poor (S & P) recently ranked some of the Nigerian banks as highly risky with weak regulatory oversight. Standard and poor rated the banks under Category B (FDIC, 2010). The CBN Governor emphasized that the Standard and Poor rating requires the banks to increase their risk management process and welcome the evaluation as a good signal for improvement. In Nigeria, most bank managers have focused more on profitability with less attention to the risk of managing the quality of assets, which has more impact on the financial institution sustainability on a long term basis. Adekun, Ishola and Felix (2011) support such action. There are, however, severe criticisms against the Basel 11 Accord for its inadequacy in defining what constitutes a bank's capital. Nevertheless, it has provided the basis for risk management practices in the Nigerian commercial banks.

The Basel Committee on reforming banking guidance acknowledges that the risk management system is a procedure that is necessary for assessing bank capital adequacy. The committee directs the integration of firm-wide approach to risk management and urges the regulatory and supervisory community to strongly support it (Bank for International Settlements, BIS, 2003).

2.3.3 Risk Management in the Banking Sector

Recent developments in the world financial system within the past decade have given grave concern to stakeholders in the banking industry. The financial crisis experienced by the industry in recent times has been attributed mainly to the poor performance of the regulatory agencies and the low level of risk management practices of the financial institutions. It is suggested that the managers should not only consider the returns made in the sector, but to critically evaluate frameworks used for risk management in the business and further protect their interests.

The banking sector had the greatest effect of the crisis, where some banks, which were considered beforehand financially sound and healthy suddenly, announced substantial losses (Ajibo, 2015; Owojori *et al.*, 2011). These were as a result of breaching basic rules of risk management, such as minimizing the volatility of returns and avoiding substantial concentrations of assets. The problems in financial institutions can affect the whole business of banking that comes from risks taking in conditions of uncertainty because the problem can be life threatening. The Turnbull approach puts much emphasis on management of risks rather than risk elimination (Carey, 2001).

A study conducted by Odonkor, Osei, Abor, and Adjasi (2011) on bank risk and performance in 18 Ghanaian banks showed that lesser risk stages can increase bank performance. Rahman, Noor, and Ismail (2013) examined the extent to which risk management process mediates between the board involvements in risk management practices of Islamic banks in Malaysia and Egypt. The findings show that the Islamic banks are more efficient in their risk management process than other non-Islamic banks. High involvement of Board of Directors in the ERM process will significantly impact the efficient ERM system, and this invariably leads to significantly higher ERM practices in the banks. Board of Directors is required to take strategic responsibility for setting, assessing and managing the risk management culture within their respective enterprises.

In the same vein, Shafique, Hussain, and Hassan (2013) examine the differences in the application of risk management practices of Islamic institutions versus traditional financial institutions in Pakistan. The finding shows the types of risks faced by the banks which were classified as; credit risk, market risk, investment risk and equity. Others are; credit risk, liquidity risk, information safety risk, the rate of return risk and operational risk.

The study concludes that the risk management practices in Islamic financial institutions are not different from the methods obtained in traditional financial institutions. By implication, the general risk management practices in the two enterprises are the same in Pakistan. However, the finding by Rahman *et al.* (2013) showed that the Islamic banks are more efficient in their risk management process than other non-Islamic banks in Malaysia and Egypt. Thus, resulting in mixed finding which calls for a further investigation.

Likewise, Gates, Nicolas, and Walker (2012) conducted a study on how ERM can improve management and organizational performance. The author suggests that ERM lead to increased management consensus, effective communication of risk taking, better-informed decisions and greater management responsibility. However, the authors note that some Board of Directors and management teams are not willing to embrace ERM because of the uncertainty of its value. Such action casts doubt on the capacity and capability of the Board of Directors to move the ERM process forward since they are unwilling to embrace the concept. It could also be that they are not well aware as a result of lack of knowledge on the benefits of ERM system.

Similarly, Aebi, Sabato, and Schmid (2012) examined the relationship between risk management, corporate governance and bank performance in the Netherlands. The variables used are; CFO ownership, board size, CRO and board independence. The result shows that the bank, in which the CRO report directly to the Board of Directors

and not the CEO, shows significantly higher stock returns and ROE during the crisis time. However, the variables used in corporate governance are mostly not significant or even negatively related to banks performance during periods of crisis which requires further research for comparative analysis as each context has different peculiarities.

Also, Arora (2013) examined ownership effects on Credit Risk Management (CRM) and strategic decisions in the Indian banks using primary data obtained from a sample of 35 banks of both public and private sector banks. The finding shows that the bank ownership does not significantly influence CRM and strategic decisions. The study further identifies the weak areas that the selected banks should focus on to strengthen their CRM structure.

Equally, a study conducted by Mikes (2009) on the risk management practices of two banks for the period of 2001-2005 shows that both banks had developed risk management methods, but only one bank has adopted a modern ERM. Ernst and Young (2010) conducted a survey of top management at nearly 40 international banks on risk governance. The finding demonstrates that only 14 percent of the respondents indicated that they have a holistic view of risk across their respective organizations. The practitioners opined that the majority of banks had no enterprise-wide view of risk management practices. The researchers note that the financial crisis has uncovered the inherent weaknesses in ERM.

The author further suggests that the stakeholders should mount pressure on the banks to increase their risk management systems, improve the interconnectivity between risk and finance functions, including auditing and ensure that risk culture is a top priority. The firm further notes that the traditional or the silo system of risk management is inadequate in forecasting and decision making. Lack of transparent reporting is also another factor militating against the implementation of ERM. They further revealed that the creation of risk awareness culture was a top priority and more than threequarters cited as crucial for enhancing the practices of risk management.

The nature of risk aware culture within the bank requires that risk management become everyone's business (Ernst &Young, 2008). The banks will have to integrates the practices of effective risk management and exploit the opportunities associated with them. Indeed, ERM has a significant role to play in a complex environment caused by industrialization, globalization, and stiff business competition. Really, risk management has become more critical than ever before. Equally, Adegbite (2012) examined the corporate governance and the regulatory system in Nigeria. The author proposed the formulation of effective corporate governance and regulatory policy that is responsive to ensuring organizational vitality and eliminates or reduce business and risk management failure.

Besides, Tandelilin, Cairo, and Mahadwartham (2007) conducted a study and examined the relationship between risk management, corporate governance, and bank performance in the Indonesian banking sector. The study further examined the moderating effect of the ownership on the relationships between corporate governance, risk management and bank performance. The study shows that the relationships between bank performance and corporate governance and risk management and corporate governance are sensitive to the bank ownership. Foreignowned banks also indicate a significant association between corporate governance and risk management. The study also finds an interrelationship between risk management and bank performance and vice versa.

Furthermore, a survey conducted by Akpan and Amran (2014) reveal that the incompetency of the board was the primary reason for the failure of corporate governance in Nigeria. However, the study argued that the board has a part to play in corporate governance as their principal duty is that of supervising the management to ensure proper accountability to shareholders and other stakeholders in line with agency theory. The implication of this is that whether board characteristics influence ERM implementation in the Nigerian banking sector and the extent to which the ERM is being implemented. Again, the authors find that there is a positive association between the board size and education to company performance, but the study failed to consider the relationship between board characteristics, business performance, and ERM implementation.

Likewise, another study by Spiral and Page (2003) argue that risk management has become a key to corporate governance. Risks are then efficiently coordinated and handled within the corporate governance structure by applying necessary instruments of accountability, such as audit, internal control and financial reporting embodied in ERM (Spiral & Page, 2003). However, risk cannot be wholly ruled out, but is made through a process of the ERM, which will invariably act as protection against incompetence and deterrent to fraud.

2.4 Antecedents of the Stage of Enterprise Risk Management Implementation

Several studies (Al-Tamimi, & Al-Mazrooei, 2007; Hoyt & Liebenberg, 2009; Kleffner *et al.* 2003; Lam, 2014) demonstrate that a practical implementation of ERM is necessary for high-level corporate governance. Presently, ERM has occupied a vital place on the agenda of managers, academics, and practitioners. Enterprise Risk Management is much more significant and necessary in the business sector, particularly the banking business than other companies because of the nature and complexity of their activities (Beasley *et al.*, 2005). Several studies have examined the antecedents and value addition of ERM implementation.

Yegon, Mouni, and Waryani (2014) examine the effect of firm size on ERM for the listed companies in Kenya. The result indicates positive relationship between firm size, capital structure, net assets and financial performance. Thus, to attain the business's objectives, the risk has to be managed or controlled in a systematic way across the firm. Failure to develop an ERM process can result in a severe financial loss as well as damage to reputation (Lam, 2003). Several studies (Goldshan & Rasid, 2012; Hoyt & Liebenberg, 2009; Lam, 2014; Nocco & Stulz, 2006) lend support to the value addition of ERM and its promotion of organizational performance. Enterprise Risk Management is still at a rudimentary stage as a measurement of performance, but many companies are currently supporting the adoption of ERM (CBN, 2012; Power, 2009). However, many companies are not fully adopting it and little is known about why they are not adopting especially in developing countries like Nigeria.

Similarly, Ittner and Keusch (2015) examine the influence of board risk oversight responsibilities and the practices on the maturity of the firm's risk management process and risk appetite. The finding indicates a positive association between board oversight accountability and maturity of risk management processes. This further confirms the critical role that the Board of Directors play in the implementation of ERM.

Likewise, Hines and Peters (2015) examine the determinants and consequence of the formation of a voluntary Risk Management Committee (RMC) among financial institutions. The finding indicates that RMC is merely to fulfil roles as an implication of the institutional theory that focuses on the perception of responsible risk management actions. In essence, RMC is being used as a governance mechanism to assist in maintaining and sustaining legitimacy over risk activities in terms of compliance while ignoring the role of the Board of Directors in ERM related matters.

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Furthermore, Ghazali and Manab (2013) examine the value creation of ERM to Malaysian public listed companies using secondary data. The finding indicates that there is a positive relationship between ERM and value creation. Similarly, Hudin and Hamid (2014) proposed a framework for examining ERM drivers to the ERM implementation using the combination of institutional and contingency theories to explain the rationale for the selected variables that influence the implementation of ERM in organisations. Nevertheless, the studies failed to examine the extent of ERM implementation and the impact of the role of the Board of Directors on ERM deployment. The studies however, suggest further studies on the application of these theories in assessing the proposed drivers of ERM adoption but the needful is to evaluate the effect of these antecedents and the role of the Board of Directors on ERM adoption and its alignment with these theories.

Deloitte (2012) conducted a study to evaluate the current state of risk management practices within the financial services across Africa. The findings reveal that risk management has grown in importance as a result of regulatory demand and also to protect current assets while actively pursuing competitive advantage. The result further indicates that approximately 75 percent of the organizations handle risk management at the board level oversight while more than 50 percent report having risk governance Models at different levels of execution. The Board of Directors also participate in risk management programs, risk management policy and risk management framework. The majority of the respondents' representing 82 percent agreed on the existence of the chief risk officer (CRO). The Board of Directors should lead in driving the risk agenda across businesses while the top management creates a risk cultural awareness.

The demand for the entrenchment of ERM in operational and strategic decisions is imperative. Thus, there must be a definition of ERM policy, setting up ERM functions and efficient monitoring and reporting while driving a risk management culture in the firm. Subsequently, the internal audit functions should align with risk identification and assessment arising from ERM programs. The internal audit department should provide assurance and consultancy services of the ERM framework and plan execution. A strategic definition of the risk appetite and compliance with rules and regulations should be enhanced while integrating various risk efforts and demand for a co-ordinated implementation approach across the establishment. To this end, attention should be focused on the types of risk faced by the banks such as operational risk, liquidity risk, and reputation risk and information safety risk. Others are a regulatory risk, credit risk, market risk, terrorist threat risk and political peril. The ERM framework should be set equally well as the plan to facilitate adequate reporting and integration of information. Finally, entrench regular training of boards and top management of concepts and implementation strategy of ERM deployment to building internal capacity and competency. Also, undertake a cultural orientation, dynamic plan to embed a risk awareness culture across the enterprises. These form the bedrock for effective ERM implementation.

The carrying out of ERM will ease the agency difficulty between shareholders (principal) and managers (agents). The agency theory stresses the resolution of conflict of interests between the principal (shareholders) and the agents (managers) by enhancing monitoring mechanisms such as the Board of Directors and internal auditors. The commercial enterprise will thereby reach its end of improving performance and invariably increases value for shareholders (Nocco & Stulz, 2006). Some companies that embrace the programs of risk –based management makes additional value for their shareholders (Bowen, 2006).

Managers can consider all necessary steps to identify and mitigate all risks that impede the accomplishment of the company's objective that will invariably increase performance and enhance shareholder value. However, there is still lack of efficacy for the implementation of ERM in the Nigerian enterprises as most of these studies failed to assess the extent of ERM implementation and the role of the Board of Directors. This calls for quick intervention through further studies in order to reap the benefits of effective ERM acceptance.

2.4.1 Stage of Enterprise Risk Management Implementation

Many corporate governance reform experts have predicted for the world wide acceptance of an enterprise-wide approach to risk management known as "Enterprise Risk Management (ERM). Enterprise Risk Management is different from traditional approaches that concentrate on risk oversight by managing risk in "silos" or separate units of risks. Enterprise Risk Management emphasizes a top-down, enterprise-wide survey of the portfolio of relevant risk exposures possibly affecting an organisation's ability to achieve its objectives (Beasley *et al.*, 2010). Several studies have examined the adoption of ERM in organisations in different contexts.

Beasley *et al.* (2005) examine the components linked up with the extent of ERM deployment in 123 US organisations from different industries. The following variables were tested; the presence of a CRO, independence of the Board of Directors, management expectations for ERM, auditor type, establishment size, industry and country of domicile. The findings reveal that board and senior management leadership with respect to ERM are critical to the extent of ERM deployment. Other organizational characteristics, such as size, auditor type, industry, and country of domicile also help to explain the extent of ERM implementation. Nonetheless the role of the Board of Directors was relegated to the background which calls for further evaluation so as to assess the effect of the board on the determinants and the stage of ERM adoption using other variables.

A related research was also conducted by Beasley *et al.* (2010) at North Carolina State University which document that the current level of ERM practices in most systems is not well developed and still quite immature. The study reveals that only 28 percent of respondents reported that the level of ERM implementation in their business as efficient, robust and sound with regular coverage process. Similarly, 60 percent of them indicated it as casual and unstructured with insignificant and informal reporting process. Twelve (12) percent said that their establishment takes no coordinated process for spotting and accounting procedure. This study supports the need to provide plausible evidence on the necessity to conduct further studies to assess the current status of ERM practices and its maturity status in organisations especially in developing countries like Nigeria.

Furthermore, Desender (2011) evaluated the degree of the ERM implementation in Spanish firms using 2834-Pharmaceutical preparations. The variables adopted include board independence, separation of CEO and chair position, firm size, free float, leverage and the auditor type. The study presented interesting findings, among which are; Pharmaceutical companies were positively related to objective setting and risk identification and risk assessment, while there is a weak relationship with control activities and monitoring. Board independence is only significantly positively related to ERM when there is a separation of CEO and chairman.

The scope of this study is restricted to the Pharmaceutical firms and used secondary data to assess the extent of implementation of ERM deployment and the effects of the drivers for ERM adoption. Therefore, there is a need to carry out similar study in other sectors such as the banking sector which requires high level ERM practices using a survey approach to obtain first-hand information from the real operators of the ERM process across all segments of the entity. Such study will aim at assessing the level of ERM application and evaluate the role of the Board of Directors on the effect of ERM implementation especially in countries like Nigeria whose ERM practices is at rudimentary stage and the level of ERM development is very immature.

Similarly, Hoyt and Liebenberg (2011) review the extent of ERM implementation and its value addition in 275 US insurance firms using the following predictor variables such as size, leverage, div point, life, opacity, div ins, institutions, reinsure, slack and value change. The research offers a beginning spot for additional research into ERM implementation and value addition. The study further finds a confident relationship between firm value and the role of ERM. The ERM premium of about 20 percent is statistically and economically significant. This study recommends additional research into ERM implementation which forms the basis for the present study with a view of carrying out similar research in the banking sector using questionnaire to test the effects of some variables which have not been included in the previous studies due to differences in socio-cultural and regulatory regimes.

Likewise, Kleffner *et al.* (2003) equally examine the application of ERM by business enterprises in 118 Canadian organisations using the Canadian Risk and Insurance Management Society members as respondents. The study also examines the impediments to ERM implementation, and the role that corporate governance guidelines have contributed to implementing ERM. The independent variables include; the influence of the risk manager, encouragement from the Board of Directors, compliance with Toronto Stock Exchange (TSE) guidelines, organizational structure and resistance to change. The findings show that 31 percent of the sample had adopted ERM and that the reasons for choosing ERM include the influence of the risk manager (61 percent), encouragement from the Board of Directors (51 percent), and compliance with the Toronto Stock Exchange (TSE) guidelines (37 percent). The major deterrents to ERM were an organizational structure that discourages ERM and an overall opposition to change.

The need to examine the effect of other variables is imperative in view of the short comings of the previous research such as this by using the Canadian Risk and Insurance Management Society members as respondents only, without due consideration to other stakeholders who may have different perceptions about the motivation for ERM adoption. This calls for further research using different set of respondents ranging from top to bottom across all segments of the enterprise to obtain plausible evidence on the current ERM practices and the extent of ERM execution in other sectors such as the banking industry.

In the same vein, Paape and Spekle (2011) examine the extent of ERM implementation and the factors that are related to cross-sectional differences in the stage of ERM adoption. The work also examines specific ERM strategic adoptions and their impact on perceived ERM effectiveness in different industries of the Netherlands. The research adopted a survey approach to collect cross-sectional data from 825 organizations while applying the Logistic regression Model for data analysis. The variables tested with the extent of ERM implementation are; regulatory influences such as, listed firms and governance regulation, existence of a CRO, presence of an audit committee, institutional ownership, owner-managed firms,

engagement of a big 4 audit firm, organizational development, organizational size, firms in the financial services industry, firms in the energy sector and public sector organisations.

The study finds that the extent of ERM implementation is influenced by the regulatory environment, internal factors such as CRO and RMC, ownership structure, and firm and industry-related characteristics. The research further finds no proof that the use of the COSO framework enhances ERM effectiveness. However, the study recommends future studies on specific ERM strategic adoptions and their impact on perceived ERM effectiveness. The present study extends the research by Paape and Spekle (2011) which includes the moderating effect of board characteristics on the effect on antecedents for ERM deployment in line with its recommendation for future research. This study is also restricted to the banking industry using board members, top management and lower management as respondents conducted in Nigerian environment unlike the previous study which was conducted in both private and public sectors of the Netherlands.

Additionally, Pagach and War (2011) analyse the characteristics of firms that adopt ERM in the US publicly listed companies using 138 Announcements of the appointment of CRO as a proxy for ERM adoption. The study used time-series panel data set and use hazard Model for analysis. The variables examine the factors that influence ERM adoption which include; Firm's leverage, cash ratio, operating cash flow volatility, and tax complexity. Others are asset opacity, the presence of growth options and volatility of the firm's stock price. The study finds that firms appear to implement ERM when they are larger and have more volatile cash flows and riskier stock returns. The finding also reveals that ERM adoption is more prevalent among depository institutions, brokers, and insurance companies. Still, the finding further explains that banks with lower Tier 1 capital are more likely to hire a CRO. Consequently, future research on the implementation process is needed to understand the evolution of firms' ERM programs. Based on the recommendation of this study, the present study extends the study by assessing the role of the Board of Directors which was not given adequate attention in the previous studies using questionnaire with different variables based on the literature, nature and peculiarities of the Nigerian environment.

Likewise, Manab, Othman, and Kassim (2012) examine the critical success factors of effective Enterprise-Wide Risk Management (EWRM) practices that have an impact on shareholder value. The study used 59 Public Listed Companies (PLCs) of the service sector of Malaysian industries. The survey adopted a triangulation approach to producing an improved data collection and analysis for the study. The predictor variables tested are organizational culture, risk management base, compliance, resource, cross-functional staff, knowledge management, and power or authority.

The finding reveals that an organisational risk management culture has been mentioned both, in the survey and case study analysis, as the most significant critical success factor among PLCs. The findings using the stepwise multiple regression showed that companies with an organisational risk management culture would increase shareholder value. The study further finds that the successful implementation of EWRM depends on the existing practices of risk management in terms of infrastructure and skill, and knowledge among the staff.

Accordingly, Manab *et al.* (2010) further tested the drivers for the success of EWRM implementation with corporate governance, compliance and value creation in forprofit companies. The study finds that EWRM concepts and its exploits have become a rising concern among Public Listed Companies (PLCs) in Malaysia. From the survey, it is evident that financial companies cited that their EWRM practices were due to corporate governance, compliance, and honest business practice and also for improved decision making. Nonetheless, both studies failed to acknowledge the role of the Board of Directors in ERM adoption despite the provision of the Code of Corporate Governance on the role of the Board of Directors. This has warranted the need for further study to address the lapses observed in the previous studies and assess the effect of the Board of Directors on the antecedents and the extent of ERM application.

Consequently, Golshan and Rasid (2012) examine ERM adoption in Malaysia using 993 firms listed on the main board of the Malaysian bourse. The ERM adoption was proxy by the availability of ERM framework and the existence of a CRO. The independent variables tested include; firm size, firm complexity, industries, state of domicile, financial leverage, auditor type, board independence, assets opacity, stock price volatility and institutional ownership. The study applied the logistic regression Model to analyse secondary data. The findings reveal that merely two elements of financial leverage and auditor type were found positively associated with ERM adoption. Likewise, other results showed that firms with higher financial leverage and with a Big4 auditor are more probably to have a form of an ERM framework in place.

Most of the variables tested in this study did not have significant effect on ERM adoption resulting in mixed findings which are contrary to previous studies. Such findings warranted the efficacy for additional research to re-assess the effect of these variables in collaboration with other variables on ERM adoption in a different setting as each country has its own peculiarities and specific requirements of Code of Corporate Governance.

The shock of the worldwide fiscal crisis has publicized the relevance of ERM (Coskun, 2012). The ERM importance has a relation with the dynamic business environment characterized by threats from political, economic, terrorist threats, natural, and technical resources (Wu & Olson, 2010). Therefore, managing risk requires effective communication across the system using the top-down oversight and bottom-up involvement method to guarantee active participation by everyone in the bank. Thus, to instil a risk-aware culture in the bank, the risk must become everyone's business (Ernst & Young, 2008).

Numerous studies document that ERM is necessary for high-level corporate governance (Al-Tamimi & Al-Mazrooei, 2007; Hoyt & Liebenberg, 2009; Kleffner *et al.* 2003; Lam, 2014). At present, corporate governance and risk management have become critical matters for all cases of organizations. The practices of corporate governance and risk management are interdependently and closely connected together

because they enhance the monitoring capacity and capability of the Board of Directors (Daud *et al.*, 2011; Manab *et al.*, 2010).

From the various studies, it is evident that financial companies cited that their ERM practices were due to corporate governance, compliance, and honest business practice and also for improved decision making. Furthermore, the primary reason for ERM implementation is to ensure the sustainability of the enterprise and value creation. The Firm's adoption of ERM is as a result of compliance with rules and regulations, which is contingent upon other factors. This finding highlights the importance of leadership support and dedication to the success of the ERM program. Without top management support and commitment, the ERM program may fail. Perrin (2002) suggests that the application of an ERM framework, particularly in the initial stage of implementation requires substantial financial support and commitment from the Board of Directors and top management. Therefore, additional research is needed to re-assess the effect of the corporate governance variables on ERM deployment in different setting to align the findings with the previous studies.

The ERM implementation has an impact on the internal audit functions (Beasley *et al.*, 2006). The new internal auditor's standards have switched the rule from a control based internal auditing to a risk-based internal auditing (IIA, 2004). The new rules include risk assessment, control environment, data management and communications, and risk monitoring (IIA, 2004; Beasley *et al.*, 2006). Consequently, Abdullatif and Kawuq (2015) examine the role of internal auditing in risk management adoption in Jordan. The outcome indicates that internal audit involvement has been on the increase over the years.

In the same vein, Ciocoiu *et al.* (2009) argued that there have been differences in the implementation of risk management across different businesses and organizations depending on the driving force for ERM adoption. Similarly, Demidenko and McNutt (2010) reviewed the current debate on ethics of ERM and the responsibility for effective implementation to develop good governance. The findings show that companies in Australia are more matured than those in Russia with respect to management systems and the level of ERM implementation. These findings provide support for the present research to be conducted in developing country like Nigeria to assess the maturity level of ERM practices for comparative analysis of the level of its implementation within different settings across the world.

The recent massive company collapse, corporate crises, and other external and internal factors, coupled with the lack of confidence by investors and creditors in financial reporting, are the main reasons which become strong motivating factors for strengthening and enhancing corporate governance and the adoption of ERM across industries (Kleffner *et al.*, 2003; Lam, 2014). Therefore, ERM has now become an important issue for the business, industries, and the academic, broader in scope and have been included in corporate philosophy (Kleffner *et al.*, 2003). The goal of ERM is to preserve and enhance shareholder value (Gordon *et al.*, 2009; Hoyt & Liebenberg, 2011; Manab *et al.*, 2010). This justifies the necessity for the carrying out research on ERM implementation in Nigeria to assess the effect of ERM implementation on bank performance and shareholder value.

Daud *et al.* (2011) evaluate the role of the quality board of directors in ERM practices using logistic regression Model. The researchers identify the factors that could influence the level of ERM adoption among Malaysian public listed companies. The result shows a positive association between qualities of the board of directors and ERM adoption. This finding implies that the board is the risk management owner and has the responsibility for the ERM decision. The present study is an extension of the study by Daud *et al.* (2011) which also re-assessed the role of the Board of Directors in terms of the effect of their characteristics on ERM adoption using different variables and respondents in Nigerian context.

Similarly, Waweru and Kisaka (2013) identify the stage of ERM implementation in the listed companies on the Nairobi Stock Exchange, Kenya as well as the factors affecting the level of implementation. The study determines whether there is a positive effect on the value of the companies. The finding indicates a positive association between ERM adoption and the value of the firms.

Several studies have been conducted on the determinants of ERM adoption in both private and publicly listed companies (Abdullah *et al.*, 2012; Ajibo, 2015; Beasley *et al.*, 2005; Colquitt, Hoyt & Lee, 1999; Daud & Yazid, 2009; Descender, 2007; Fadun, 2013; Golshan & Rasid, 2012; Hoyt & Liebenberg, 2008; Jalal-Karim, 2013; Kleffner *et al.*, 2003;Lai, 2014; Owojori *et al.*, 2011; Paape & Spekle, 2011; Pagach & Warr, 2007; Rahman *et al.*, 2013; Razali & Tahir, 2011; Roslan & Dahan, 2013;Saeidi, Sofian, Rasid, Zaleha, & Saeid, 2012; Lai, 2014; Yaraghi & Langhe, 2011; Yazid, Razali, & Hussin, 2012).

The variables used include firm size, industry, top management support, the presence of CRO, and quality of CRO, quality of the internal auditor, business, and quality of the board of directors. Others are audit quality, risk culture, international diversification, majority shareholders, organizational performance, board involvement in risk management, board independence, board size while some include, structures, governance, process, trust, ownership, regulatory compliance, corporate governance, education, firm complexity, active companies, training and education, knowledge, country of domicile for the whole company, board of director independence. Others are the presence of Big4 auditors, cross- functional staff, resources and a host of others. However, these variables depend on the peculiarity of each country and the context in which they have been tested. Most of the results show that there are significant relationships between variables, and organizational performance, boosting competitive business advantage and efficient risk management.

Nevertheless, some of the results provide insignificant relationships or has weak relationships and mixed findings that call for future research. Furthermore, most of the studies took place in advanced countries such as US, UK, Canada, Spain, Australia and emerging economies such as Malaysia and South Africa. Accordingly, several studies (Hoyt & Liebenberg, 2011; Paape & Spekle, 2011; Pagach &Warr, 2011; Manab *et al.*, 2012) recommend future research on ERM adoption in different contexts (see Appendix G11 for summary of tables on literature review).

To this end, Sabato (2010) suggests that there are improper ways of practicing ERM program. These include; lack of a defined capital allocation, the disaggregated vision of the risks and inappropriate risk governance factors. These factors can lead to the

non-working of risk management in most banking institutions.Jalal-Karim (2013) in his study showed that there is knowledge of the value of ERM in Bahrain but they failed to implement it as a result of lack of information and lack of ERM framework.

Similarly, a study by Shafiq and Nasr (2010) shows the differences between risk management implementation among public sector banks and local private banks as well as the disclosure of differences in the financial soundness indicator. Hence, the need to conduct a related study to assess the impact of environmental factors on ERM adoption and the level of differences in the current status of ERM practices in developed and developing countries.

Furthermore, Razali, and Tahir (2011) in their study show that the levels of knowledge and understandings of ERM in Malaysia are still reflected low among the public listed companies. Daud *et al.* (2011) examine the level of ERM adoption and claim that only 43 percent of public enterprises in Malaysia had a full ERM adoption in their areas and 57 percent as partially adopted. Notwithstanding the study by Rasid, Golshan, Ismail, and Ahmad (2012) which reported that there is an almost equal amount of complete and partial ERM framework implementation in public listed companies in Malaysia. Similar research is needed to test and create awareness on ERM process and assess the stage of ERM deployment particularly in the banking sector. Therefore, the present study extends the previous studies by introducing the moderating role of board characteristics and additional set of independent variables based on the peculiarity and the regulatory environment of Nigeria.

Consequently, there are few companies from developing countries that have adopted ERM while the developed countries have a high level of ERM practices across both public and private sectors (Subhani & Osman, 2011). Ernst and Young (2010) conducted a study on risk governance and found that only 14 percent of the respondents at nearly 40 international banks document that they have an integrated view of risk across their respective companies. The practitioners suggest that the majority of banks need enterprise-wide understanding of risk management. The firm further notes that the traditional or the silo system of risk management is inadequate in forecasting.

Lack of adequate resources and ineffective decision making and lack of transparent reporting was some of the militating factors against the implementation of ERM. The firm further revealed that the creation of risk awareness culture was a top priority and more than three-quarters of the respondents cited as crucial for enhancing the practices of risk management.

Despite the increasing importance of ERM practices, there is a notable lack of empirical evidence on the stage of ERM implementation. There are limited studies that examine the effect of antecedents and the moderating role of Board of Directors on ERM implementation (Altuntas *et al.*, 2011; Beasley *et al.*, 2005; Gloshan & Rasid, 2012; Jalal- Karim, 2013; Kleffner *et al.*, 2003; Liebenberg & Hoyt, 2003; Hoyt & Liebenberg, 2011; Manab *et al.*, 2012; Önder & Ergin, 2012; Paape & Spekle 2011; Pagach & Warr, 2011). However, most of these studies were conducted in developed countries and emerging economies, leaving the developing countries far behind, particularly, Nigeria.

Some of these studies, nevertheless, have some ambiguity in the result. In fact some are not industry specific and failed to link the ERM implementation to a single event instead, they use ranges of stages between fully ERM implemented to ERM nonimplementation at all, to examine the stage of ERM implementation. This study measured the stage of ERM implementation by ERM complete in place or ERM partial in place.

This was based on the input from the pilot test and the suggestions of the experts and focus group that validated the instruments for data collection. The study further used the actual board members, top management, including CRO and CAE, risk management managers, internal auditors and operational staff from different departments within the banks as respondents. This is to ensure that the real operators of the ERM system provide credible evidence on the practical implementation of ERM at all levels of the bank's operations to minimise bias.

Majority of them are the actual operational managers at the branch levels as well as the head offices who were used as the respondents to receive first-hand information from the field on the ERM process activities. Although prior studies used five stages of measurement of a categorical, ordinal outcome variable, this study employed only two stages, to measure a dichotomous dependent variable. The analysis of the stage of ERM implementation is either ERM complete in place (1) or ERM partial in place (0) because it is required for all the commercial banks in Nigeria to implement ERM. Accordingly, there is a paucity of research on the stage of ERM implementation in Nigeria and the antecedents that influence ERM implementation. However, there are few studies on risk management in Nigeria. Various studies (Adeleye, Annansingh, & Nunes, 2004; Ajibo, 2015; Dabari & Saidin, 2014; Fadun, 2013; Kolapo *et al.*, 2012; Njogo, 2012; Owojori *et al.*, 2011) have been conducted on risk management practices in Nigeria. Lamentably, all the studies empirically failed to examine the stage of ERM implementation in the Nigerian banking sector. Furthermore, some of these works were either conceptual in context or focus on other areas/ industries.

Subsequently, Owojori *et al.* (2011) examined the challenges of risk management in the Nigerian banks but used descriptive analysis. Similarly, Adeleye *et al.* (2004) review risk management practices in information system outsourcing in the commercial banks in Nigeria. The finding shows that the regulatory agencies are yet to formulate substantive policy guidelines or rules and regulations to be implemented nationally by the commercial banks.

In the same vein, Soyemi *et al.* (2014) analyse the risk management practices of Nigerian commercial banks, relating these practices to their yearly financial performance for 2012 fiscal year. The finding reveals that risk management is positively associated with the bank's financial performance. Additionally, Njogo (2012) examine risk management in the Nigerian banking industry. The conceptual paper only identified some key risk factors that pose possible threats to the banks, if not properly handled. Again, Ajibo (2015) examine risk-based regulation in the Nigerian banks and postulates that the future of Nigerian commercial banking regulation depends on the risk-based framework through the adoption of international

best practices. Thus, none of these works examines the stage of ERM implementation in the Nigerian banks; hence, the justification for the present study.

Furthermore, Donwa and Garuba (2011) studied ERM in accounting and professional firms in Nigeria and note that the risk management function was absent as an integrated and holistic enterprise-wide practices within most companies. Similarly, Fadun (2013) comprehensively reviewed the extant literature on ERM adoption in Nigerian banks but failed to examine empirically the ERM current practices and the stage of ERM implementation. The author also unfortunately failed to even propose a framework for its deployment. It was only a review paper that lacked the empirical significance and meaningful contribution to the body of knowledge and possible generalization of the results. On the other hand, Ugwuanyi and Ibe (2012) conducted an empirical study on ERM in Nigerian brewery business and found that ERM promotes firms' performance in Nigeria Brewery but failed to conduct similar studies in the banking sector.

From the extant literature, the need to examine the current state of ERM practices and the stage of ERM implementation is paramount and timely because most of the studies that examined the ERM practices in Nigeria failed to identify the drivers of ERM deployment and the moderating effect of board characteristics on the current status of ERM implementation and to assess its stage of implementation in terms of maturity.

Therefore, the primary objective of this research is to examine the current state of ERM practices in the Nigerian banks and determine the stage of ERM

implementation. Furthermore, the study also determines the effect of the antecedents (regulatory influence, internal audit effectiveness, human resource competency, top management commitment) on the stage of ERM implementation. It further investigated the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation. To this end, this is the first known empirical research that examines this set of combination of variables in the Nigerian banks about ERM implementation in the Nigerian context. The following sections discussed individually the independent variables of the study and their justification including the moderating variable.

2.4.2 Current State of ERM Practices

The speedy rate of change and unexpected disruptions in the worldwide market place elicited an apparently rising risks that can erode, or even put an end to organization's business operations and objectives. Boards of Directors and top management face a serious challenge in identifying, assessing, and managing risks that may impact both positively and negatively the organization's strategic goals. Over the past decade, there have been ever-increasing demands on corporate organizations to strengthen their ERM processes. The review of the extant literature is necessary to understand the current state of ERM practices among the Nigerian banks.

Beasley, Branson, and Hancock (2010) conducted a study at North Carolina State University and find that the current level of ERM implementation in most firms is underdeveloped and still relatively immature. The findings indicate that only 28 percent of respondents described ERM adoption in their organization as robust, systematic and reputable with the routine reporting process. Again, Beasley *et al.* (2009; 2010) examine the current state of enterprise risk oversight between 2009 and 2013. The finding reveals that in 2009, only 8.8 percent of organizations agreed to have had complete ERM processes in place.By 2013, only 24.6 percent made the same claim of having ERM complete in place. Accordingly, Fadun (2013) also conceptually examined the level of risk management and its implementation across businesses. It further identified reasons for risk management failure in Nigeria and suggests that risk management improves firm's performance by minimizing the chances of business failures.

Deloitte (2012) conducted a study to evaluate the current state of risk management practices within the financial services across Africa. The findings reveal that risk management has grown in importance as a result of regulatory demand and also to protect current assets while actively pursuing competitive advantage. The result further indicates that approximately 75 percent of the organizations handle risk management at the board level oversight while more than 50 percent report having risk governance Models at different levels of execution.

The Board of Directors is also involved in risk management programs, risk management policy and risk management framework. The bulk of the respondents' representing 82 percent agreed on the existence of the CRO. The Board of Directors should lead in driving the risk agenda across businesses while the top management, including CRO is involved in managing risk.

The demand for the entrenchment of ERM in operational and strategic decisions is imperative. Thus, there must be a definition of ERM policy, setting up ERM functions and efficient monitoring and reporting while driving a risk management culture in the firm. A strategic definition of the risk appetite and compliance with rules and regulations should be enhanced while integrating various risk efforts and demand for a co-ordinated implementation approach across the establishment. To this end, attention should be focused on the types of risk faced by the banks such as operational risk, liquidity risk, and reputation risk and information security risk. Others are: regulatory risk, credit risk, market risk, terrorist threat risk and political peril (Beasley *et al.*, 2010).

The ERM framework should be set equally well as the plan to facilitate adequate reporting and integration of information. Finally, entrench regular training of boards and top management of concepts and implementation strategy of ERM deployment to build internal capacity and competency. Similarly, undertake a cultural orientation, dynamic plan to embed a risk awareness culture across the enterprises. This exhibits the current efforts of risk management exercises in an organization that possesses a higher level of ERM implementation (Beasley, Branson, & Hancock, 2015). Given this, the need to examine the current state of ERM practices in the Nigerian bank is imperative.

2.4.3 Regulatory Influences

In various countries, regulatory authorities are putting pressure on organizations to improve risk management and risk reporting (Collier, Berry, & Burke, 2006; Kleffner *et al.*, 2003). The company's decision to implement ERM is also determined by
outside elements such as corporate governance, laws and regulatory compliance and the listing requirement on the Stock Exchange. Distinctive cases of regulatory pressure include the NYSE corporate governance rules and the Sarbanes-Oxley Act in the US, Malaysia Code of Corporate Governance and the Combined Code of Corporate Governance in the UK.

The execution of the principles of these Codes is required for publicly listed entities. In Nigeria, firms listed on the Nigeria Stock Exchange (NSE) are asked to comply with the Codes of Corporate Governance of the NSE as well as the CBN. These Codes contained general provisions as to the upkeep of a sound risk management processes. It has frequently been argued that ERM initiatives within firms rise in reaction to regulatory pressure (Collier *et al.*, 2006). Because this pressure is more for publicly listed companies, it is expected that such firms are more probably to adopt ERM (Kleffner *et al.*, 2003).

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PricewaterhouseCoopers (2004) suggests that the integration of corporate governance, risk management, and compliance is necessarily applicable to achieving the objectives of the business and enhance shareholder value. Companies should ensure compliance with rules, regulations and listing requirement of standards about risk management and corporate administration. This statement is further confirmed by Collier, Berry, and Burke (2007) that suggests that Code of Corporate Governance is a central incentive for risk management implementation. Furthermore, Paape and Spekle (2011) find a confident relationship between the regulatory environment and the extent of ERM implementation.

Similarly, Kaur and Kapoor (2011) indicate that the turbulent financial and organizational setting has increased the significance and the role of ERM in the banking industry. Nevertheless, the finding by Kleffner *et al.* (2003) shows no significant deviation in the Canadian firms that are listed on TSE and those not listed. These results have the implication of mixed findings that warrant further investigation.

In order to provide further explanation of the regulatory influence variable, there is a demand to study the relevance of the institutional theory to explaining the antecedents of ERM implementation. This provides support to the underpinning theory that is the agency theory. By implication, defined patterns are imposed coercively just like government mandatory laws and rules or mandate by external bodies like Basel Accord Principles (Scott, 1987) and the rating agencies. In enhancing effective banking supervision, there is a demand to introduce a risk-based regulation across all banks irrespective of their status (Ajibo, 2015). The literature review attests to the value of regulatory influence or compliance as one of the antecedents of ERM implementation.

2.4.4 Internal Audit Effectiveness

There are several definitions of internal audit effectiveness given by scholars and experts. For example, Arena and Azzone (2009) view effectiveness as the ability that will warrant attainment of results that are consistent with set objectives. On the other hand, Dittenhofer (2001) defines effectiveness as the information that will improve the realization of objectives and goals. Therefore, the internal audit effectiveness implies the role of the internal auditor to achieve the set goals of the organization.

Accordingly, IIA (2010) defines internal audit effectiveness "as the stage (including quality) to which established targets are achieved." The degree of internal audit effectiveness tends to differ across organizations as well as a country (Al-Twaijry *et al.*, 2003). This implies that the internal audit effectiveness can also change from the banks. However, performance assessment mechanisms of internal auditing have not evolved at the same time. This has made it hard to measure the extent of internal auditing in meeting the expectations of stockholders.

Sobel (2011) examine the state of internal auditing and its role in risk management. The outcome reveals that audit committees do not sufficiently rely on the internal auditors to provide advice on risk management, and that only about one-quarter of the internal auditors examined said that they had primary responsibilities for risk management. The central roles of internal auditors, as identified, were to provide informally consulting and advice on risk management, to facilitate the identification and evaluation of critical risks, and to participate in the identification of emerging risks. Therefore, Sobel (2011) notes that there are opportunities for internal auditors to be more involved in providing assurance on risk management while evaluating strategic risks, and educating management and audit committees on risk and risk management concepts.

Simlarly, Abdullatif and Kawuq (2015) find that internal audit involvement has been on the increase over the years. The level of participation has now been included in the International Standards for the Professional Practices of Internal Auditing (ISPPIA) issued by the Institute of Internal Auditing (IIA). The IIA further published a position paper (IIA, 2009) on the roles that internal auditors should, could and should not assume in ERM adoption.

Beasley *et al.* (2006) recommend that the importance of an internal audit report is dependent thereon by the management and the audit committee as a decisive standard of corporate governance and indeed, a useful tool for fighting fraud (Deloitte, 2010; KPMG, 2008; Pricewaterhouse, 200). Likewise, Zwaan, Stewart, and Subramaniam (2009) note that, the Institute of Internal Auditors (IIA) revised the definition of internal auditing that covers both assurance and consulting activities across the three interrelated areas. These are risk management, control and governance (IIA, 2004). Internal auditors play a fundamental role in giving both assurance and consulting services about risk management (Sarens & De Beelde, 2006).

The status of the internal auditor also needs a person instilled with certain indispensable qualities to enhance effectiveness. The internal auditor should also have the requisite qualification and technical knowledge to effectively perform analytical jobs, facilitation skills and value added activities (Badara & Saidin, 2013). The IIA (2009) further provides the conditions necessary for the internal auditors to be useful in the performance of their roles about ERM. To be effective, the internal audit needs the appropriate skills and knowledge to perform their functions with regards to risk management. The study by Ussahawanitchakit and Intakhan (2011) find internal audit professionalism and independence positively significant to internal audit effectiveness.

Similarly, Beasley *et al.* (2006) finds that ERM has the greatest impact on internal audit's functions. Additionally, Badara and Saidin (2014) while examining the empirical evidence of antecedents of internal audit effectiveness in Nigerian local government, find a positive association between risk management and internal audit effectiveness. Fadzil, Haron, and Jantan (2006) maintain that internal auditors understand and appreciate the operations of the organisation, act as management consultant to lessen the level of risks and assist in managing the group more efficiently and effectively.

To this end, Beattie and Fearnley (1995) assert that the requirement for audit inspection and opinion, whether external or internal is due to agency demand and information demand that is explained by agency theory. Generally the firms request services of auditors to assist control the conflicting interest prevailing midst shareholders (board of directors), bondholders, managers and other stakeholders in the system. This is explained by agency theory (Jensen & Meckling, 1976). Hence, the need for testing the relationship between internal audit effectiveness and ERM implementation is imperative.

2.4.5 Human Resource Competency

Rapidly changing business environments and entities realize the value of a workforce that is not only extremely skilled and technically adept but more significantly, a workforce that can quickly adapt to change, communicate effectively, and foster interpersonal relationships. These skills are vital to organizational survival, productivity, and continual improvement. Competencies provide a common language and a foundation for integrating different skills and expertise across the organizational and operational structures that enhance efficiency and effectiveness.

There are many definitions of competency in the literature. Singh (2003) views competency as a tool to serve as a common language throughout the whole business to consistently plan personnel, determine training program and conduct performance reviews. The most famous and widely accepted definition was proposed by Parry, who defines competency as an accumulation of related expertise, knowledge, abilities and skills that impress a central constituent of one's duty that relate to business functioning (Lucia & Lepsinger, 1999).

Thus, individual competency refers to the knowledge, skill and abilities that a person may have. Accordingly, certain essential features are associated with competency level. These include: education (Al-Twaijry, 2004); professional qualification (Al-Twaijry *et al.*, 2004); training (Schneider, 1985); experience (Messier & Schneider, 1988); and knowledge of bank operations (Gibbs & Schroeder, 1979).

Human resource competencies are the ethics, knowledge, and skills of human resource professionals. Human resource competency (HRC) has been linked with better turnover, productivity, financial returns, survival, and firm value (Huselid 1995; Beltrán-Martín, Roca-Puig, Escrig-Tena, & Bou-Llusar, 2008). Therefore, human resource competency entails the level of awareness, instructions and training, mental ability, capacity and capability building of the bank's personnel, including ERM staff about risk management organizations, tools, its procedures and applications (Yaraghi & Langhe, 2011).

Various studies (Al-Twaijry *et al.*, 2004; Schanfield & Helming, 2012; Yaraghi & Langhe, 2011) examined human resource competency in terms of training and development, and others look at it from experience and knowledge perspective, and others considered it in the light of education and training. Human resource professionals with the right skills will invariably perform better. They will be more likely to appoint employees, to assist customers, and to create intangible shareholder wealth (Ulrich, Brockbank, Johnson, & Younger, 2009).

An organization's control environment in terms of ERM implementation can be seriously eroded if an important number of positions are occupied by persons lacking appropriate job skills. Top management will face the challenges from time to time when a person has been appointed for a particular job, but does not seem to have the suitable skills, training, or intelligence to execute that job. This creates operational risks, because all humans have different levels of competency, adequate supervision and training should be available to assist employees until appropriate skills are acquired (Moeller, 2007).

Human resource practices cover such areas as appointment, orientation, counselling, training, appraising, promoting, rewarding, and taking suitable corrective actions. While the human resources role should have sufficiently published policies in these areas, their real practice areas, communicate strong messages to employees with respect to their expected ethical behaviour and competence ((Moeller, 2007).

Using competency as the base for staffing offer the flexibility required to select and place individuals where they can best help the organization (Rodriguez, Patel, Bright, Gregory, & Gowing, 2002). Many governing bodies realize the connection between high-performing people, the organizational culture that supports mission achievement, and high-performing firms. High-performing people are critical for high-performing enterprises, whether pushed by the desire to improve efficiency, profitability, or, productivity, or by the desire to provide world-class customer service. Human resource competencies offer the foundation through which human resource professionals can pull in a substantial contribution to the success of their organization (Rodriguez *et al.*, 2002).

This is indeed a human resource management terminology but mirrored into risk management because of the relevance to operational risk in the banking sector. Current trends in the application of human resource management place a high value on the human resource competency, especially its use in improving effective job performance, which enhances organizational competitiveness (Cardy & Selvarajan, 2006). Increasing the competitiveness of an organization's workforce enhances higher opportunities of being successful. Selecting talented and high-potential people to carry out the organization's mission and making a culture that supports them is a critical task.

However, two challenges faced by most organizations are the recognition of the most effective means to recruit, select, and retain a high-performing workforce, especially in a tight labour market. The other challenge is the creation and maintenance of a dynamic culture for employees that foster achievement. Competencies provide an avenue through which human resource professionals can make a significant contribution to the success of their organization (Spencer & Spencer, 1993). The competency level of the Board of Directors and top management will enable them to exploit opportunities and minimize threats associated with risks for the benefit of the bank particularly enhancing competitive advantage.

From the side of the agency theory, a contractual relationship exists between an employer (principal) on one hand and an employee (agency) on the hand. This contractual relationship may face more or fewer difficulties to the extent that the employer and the worker may have different goals. Thus, when the company is monitoring the employee's action, it becomes unmanageable because the employee will resist due to differing goals or pursuits. In the organization too, everybody is a stakeholder including the employees, and their actions are subject to monitoring by the principal.

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The competency level of the Board of Directors, top management and cross sectional staff of the bank will facilitate the execution of risk management practices. It will also offer the necessary capability to cope with the complexity within the bank so that they possess the power and technological knowledge to identify measure, communicate, monitor and control all risks connected with the bank targets. Consequently, there is a demand for examining the relationship between human resource competency and the stage of ERM implementation.

2.4.6 Top Management Commitment

An ERM approach to risk management requires a top-down vision of risks faced by the entity. Visible leadership by the top management is a critical component to an effective ERM process. Those organizations that have started the implementation of ERM can attest to the reality that the adoption of an enterprise-wide view of risks which requires that risk information be made known transparently across individual units within the organization. It also requires a significant change in the corporate philosophy or mind-set of top management and cross sectional staff within the entity. As employees across the organization are held responsible for the ownership of risks within their areas of responsibility, top management leadership is needed to strengthen the position of this drive toward a more transparent, holistic view of risk management (Fraser & Simkins, 2009).

By putting the right people in proper jobs and giving adequate training as appropriate, an enterprise is thus establishing a dedication to competence, a critical ingredient in the enterprise's overall control environment. Top management often finds it beneficial to evaluate whether adequate position descriptions have been made, whether processes are in operation to put the good people in those places, and whether training and supervision are sufficient (Moeller, 2007).

The implementation of ERM in organizations, particularly banks, primarily depends on the support and commitment of the leadership (Manab & Kassim 2012). The decision to implement ERM program commences by the Board of Directors who have the primary responsibility for the risk management process. Manab and Kassim (2012) view leadership as consisting of the Board of Directors and the top management which is composed of the Chief Executive Officer (CEO), Chief Risk Officer (CRO), The Chief Audit Executive (CAE) and Chief Finance Officer (CFO). The CRO or risk manager handles the overall risk management process while internal auditors are also key members of the ERM leadership. In this study, top management is defined as the highest management team consisting of the CEO, Executive directors, CFO, CRO, CAE and other senior management staff excluding Non-Executive directors and other board members.

Subsequently, top management commitment is a crucial part of the ERM process implementation. The top management commitment and support are also required, especially towards the adequate provision of resources, structure, and creation of a risk management culture that enhances implementation. The success of ERM implementation depends very much on the commitment and support of the top management whereby they are required to identify, evaluate, control and monitor risks associated with banks objectives (Waite, 2001).

The adoption and implementation of ERM involve strategic decisions and resources. The implementation of ERM can increase the bottom line productivity and promote performance (Hovey, 2000). Bowling and Rieger (2005) suggest that without the commitment, support, and capabilities of leadership, the ERM program may fail to succeed. Hence the need for a top-down approach and bottom up a system of communication among the different levels of the business. Beasley *et al.* (2005) argue that top management support and commitment is very necessary and relevant for the successful implementation of the ERM program. The decision for the implementation of ERM should come from the top (Yazid *et al.*, 2011).

Several studies (Altuntas *et al.*, 2011; Ciocoiu *et al.*, 2009; Fadun, 2013; Yaraghe & Langhe, 2011) suggest that the apparent support and commitment of top management have a positive impact on the deployment of ERM. Encouragement from the Board of Director is one of the motivating drivers of ERM implementation (Kleffner, *et al.*, 2003). The importance of top management commitment and support is also in agreement with the agency theory because the primary agency relationship in the bank is between the shareholders and the bank management, and shareholders and the debt holders. In most cases, conflict of interest is produced because of the differences pursued by each group. In the bank setting, the bank hires top management and employees to, in part, exploit economic of specialization.

Nevertheless, the top management behaves in a way that is inconsistent with maximizing the welfare of the bank. They rather pursue their stake in terms of the compensation paid to them for the service rendered in the form of agency cost or stock bonuses. This natural process has led the principal to incur residual losses in the form of opportunity cost that arises as a consequence of differences in the outcome that is by the stockholders and the agent for the implementation of tasks (Jensen & Meckling, 1976). Hence the need to further examines the relationship between the top management commitment and the stage of ERM implementation.

2.4.7 Moderating Effect of Board Characteristics on the Relationship between Antecedents and the Stage of ERM Implementation

The Boards of Directors are governing bodies that serve vital functions for organizations (Corbetta & Salvato, 2004). These include monitoring management on behalf of different shareholders and providing resources. Board duties and features

vary widely among national cultures and within each nation, among different company types. Various researchers have found that board characteristics such as size and ownership have a relation with corporate strategy (Burton, 2008; Goodstein, Gautam, & Boeker, 1994).

Burton (2008) finding indicates that size and committee independence seemed to be negatively associated with risk underwriting while the frequency of Risk Management Committee (RMC) meetings is insignificant. Yatim (2009) further argue that risk management is central to corporate governance and linked to internal control. The author notes that the Board of Directors through the RMC impacts positively on the governance and control processes of the entity, making sound decisions, spot and prevent frauds and improve the quality of their financial reporting. There is a positive association between the Model of ERM implementation and the executive management commitment and support (Shenkir & Walker, 2006).

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Baron and Kenny (1986) define moderating variable as a variable that affects strength and direction of the relationship between dependent and independent variables. Thus, a moderating result shows that the relationship between the outcome variable and independent variables fit in as a part of a third party. A routine of survey has been conducted using top management support as a moderating variable. Manab and Kassim (2012) examine the moderating effect of leadership on the success of EWRM practices among financial and non-financial public listed companies in Malaysia. The finding shows that support and commitment from leaders are needed and required for efficient implementation of EWRM. However, Manab and Kassim (2012) failed to analyse critically the impact of accountability in their field and align it with the other antecedents.

Several pieces of literature have discussed the effect of board size on the directors' ability to monitor and control the actions of managers (Jensen, 1993; Pathan, 2009; Sharma, 2004). Anderson, Mansi, and Reeb (2004) document that investor's favour a decrease in board size and in most cases reacts adversely in the case of board increases. Nevertheless, Adams and Mehran (2008) find a positive effect on the size of the board for the performance of US banks. Independent directors are better monitors of ERM implementation because of reputation apprehensions and their aspiration for extension of the tenure ship (Beasley, 1996; Fama & Jensen, 1983).

The more independent the board is, the more likely the firm implements ERM frameworks (Golshan & Rasid, 2012). Brickley *et al.* (1994) opine that retired directors who have worked in similar companies are more likely to be more effective monitors and influence the implementation of ERM. Professional managers and directors with equity stakes have a relation with greater monitoring (Fama & Jensen, 1983). Adams and Mehran (2008) find a positive consequence of size of the board for the performance of U.S depository financial institutions.

Chong and Ismail (2013), and Burton (2008) tested the relationships between Risk Management Committee (RMC) characteristics and risk taking ability of the Malaysian insurance companies for the period of 2003-2011. The findings indicate that board size and board independence seemed to be negatively associated with risk underwriting while the frequency of meetings of the RMC is insignificant. From this analysis, it can be inferred that the RMC has an impact on risk oversight and internal control system. The survey emphasized the purpose of the RMC in corporate governance but failed to assess the effectiveness of the RMC. The competitive global market today leads companies to embed some initiatives that affect risk taking. Golshan and Rasid (2012) argue that the Board members, who are mostly the custodian of the company's capital, are not in most cases aware of their responsibility with regards to risk management implementation.

A survey conducted by Kleffner *et al.* (2003) report that the characteristics of organizations differ in their level of ERM adoption in Canada. The study suggests that companies adopting ERM system attribute it to the encouragement from the Board of Directors among others. These were the most significant elements in determining the implementation of ERM. However, Lasfer (2006) finds a strong negative relationship between the level of managerial ownership and corporate governance. The managers through their ownership choose a Board of Directors that is unlikely to monitor them. Consequently, this finding indicates that the effectiveness of the board is in doubt as an internal corporate governance monitoring mechanism.

Part 4 of the Nigerian Code of Corporate Governance for listed companies (2011) by Security and Exchange Commission (SEC) discussed board composition and responsibilities of the Board of Directors. An organization requires considering its scale and complexity of operations to regulate the size of its board. There is the need to ensure that the composition should consist of the presence of mixed experience members, their compatibility, integrity and availability of meetings. The Code directs that the size of the board should be within the range of five to fifteen members.

To this end, Akpan and Amran (2014) examine the association between board characteristics and company performance (proxy by turnover). The outcomes reveal that board size and board education are positively significantly linked to company performance. Nevertheless, board equity, board independence, and board age did not show a significant relationship. Likewise, the survey shows a significant negative correlation between board women and turnover. The study further recommends the expansion of the Model and the introduction of board characteristics as a moderating variable for better results. This formed the bedrock for the present study.

Similarly, Guthrie, Guthrie, Sokolowsky, and Wan (2012) propose that the Board of Director's independence from management is vital to the improvement of corporate governance. The board characteristics help to mitigate the conflict of interests between the parties to a contract of the bank. Agency theory suggests that the Board of Directors should take up more active oversight mission purposely to protect the shareholders' interests and thereby reduce agency cost.

Beasley *et al.* (2010) carried out a study using respondents from both public and individual companies to evaluate how boards and senior management were monitoring and overseeing their company's most significant risk exposures and the degree of their risk management exercises. The findings reveals that the respondents describe their oversight functional organizational ERM processes as 14.5 percent very immature, 27.9 percent minimally mature, 36.8 percent between mature and

immature, 17.4 percent somewhat sophisticated, and 3.4 percent very mature. On a Combined basis, 4 percent described the sophistication of their oversight as naive to minimally complicate.

The researchers document that less than half of the companies surveyed have no other ERM processes in place or insignificant procedures for finding and tracking emerging risks. However, greater than 50 percent do not monitor key risk indicators at the highest level either at the Board of Directors or senior management level. The findings recorded displeasure with the current risk oversight and, thus, suggest that leadership should go through a more vigorous enterprise risk oversight and get beyond the present stage of risk management exercises.

Furthermore, Aebi *et al.* (2012) investigate the relationship between corporate governance, risk management and bank performance using variables such as board size, CEO ownership, and CRO and board independence in the Netherlands. The findings show that in a bank, whereby the CRO report directly to the Board of Directors and not reporting to the CEO show considerably higher stock returns and return on equity during the crisis period. It is crystal clear that the Board of Directors and top management commitment are necessary and relevant for the carrying out of ERM program. They define the objectives and strategies by setting the tone of the top and the goals of ERM practices and ensure that risk management activities and risk culture are created across the organization.

From the agency theory point of view; Board of Directors are preferred to supervise the actions of top management on behalf of shareholders to serve their interest (Fama & Jensen, 1983). Eisenhardt (1989) maintains that the Board of Directors makes available more information on the activities and behaviours of top management. On the other hand, top management is likely to act inconsistently with the involvement of the shareholders due to conflict of interest and information asymmetries. The trend is that the top management will resist the activity of the Board of Directors because they feel threatened by their action. The notion created in the minds of the top management is that their action is under scrutiny of which they may not accept. Therefore, the top management can render the Board of Directors ineffective.

The purpose of this study is therefore to examine the current state of ERM practices and to determine the stage of ERM implementation in the Nigerian banking sector. Similarly, the research examined effect of the antecedents on the relationship between regulatory influences; internal audit effectiveness; human resource competency, top management commitment and the stage of ERM implementation in the Nigeria banking sector. The survey further investigated the moderating effect of board characteristics on the antecedents and the stage of risk management implementation in the Nigeria banking sector. To the researcher's knowledge, no major national test to measure the resilience of the banking industry to absorb major shocks has been carried out of recent.

This work is the first known research to the researcher's knowledge that used board characteristics as a moderating variable to examine the moderating effect on the relationship between the independent variables (regulatory influences; internal audit effectiveness; human resource competency and top management commitment) and the stage of ERM implementation in the Nigerian banking sector. The research contributes a new knowledge on the theoretical framework and the literature by introducing new variables such as human resource competency and internal audit effectiveness as independent variables as well as board characteristic as a moderating variable in the relationship between the antecedents and the stage of ERM implementation in line with Baron and Kenny (1986). Therefore, there is a gap between the general belief in the risk position of the Nigerian banking industry and the perceived health and soundness of the bank.

The study also carried out an in-depth appraisal of the risk profiles of the banks and as well as an evaluation of the adequacy of the risk management mechanism. The current study contributes to a new understanding and knowledge of the current state of ERM practices and the stage of ERM implementation in the Nigerian banking industry. The subject area has enhanced the practices of ERM with a proposition of a framework and drivers of implementation and motivates future research in the area of ERM system.

2.5 Conclusion

The literature on the stage of ERM implementation has been surveyed, and antecedents of risk management application have been distinguished. The Board of Directors and top management commitment is a fundamental element for the efficient carrying out of ERM. The backing and dedication of the Board of Directors are significantly connected with the extent of risk awareness culture, skill, and capabilities of all stakeholders in the risk management operations.

105

Therefore, this chapter discussed about the concept of risk, development of the risk management process and the transformation of ERM. It also highlights the state of risk management practices and the pitfalls to the successful execution of risk management in the Nigerian banking sector. Likewise, the Nigerian banking sector is discussed and its legal framework. Furthermore, the primary aim of the study is also discussed, and the various variables in the research have been identified in the literature. Subsequently, it is remarked that the level of risk management implementation in the Nigerian banking sector is still at rudimentary stage and requires concerted efforts to ensure the efficient carrying out of ERM across all organizations particularly the banking sector in line with international best practices. The following chapter described the theoretical framework, hypotheses development, and the underpinning theory.

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CHAPTER THREE

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

3.1 Introduction

The previous chapter discussed the literature review including the research gap. This chapter presents the theoretical framework and hypothesis developed to attain the different objectives of the study. The chapter is divided into four sections. The first section covered the theoretical framework and the objectives of the framework. The next section provides discussion on the underpinning theory and the supporting theories. The third section highlights the conceptual model and the hypothesis development for achieving the aim of the study. The last section drew conclusion that brought to an end all the sections of this chapter.

3.2 Theoretical framework

Theories are required to guide an empirical study of this nature. Theories guide their design and also assist in the interpretation of results and findings. Different theories are related to this study but before presenting the theoretical considerations, it is important to note that researchers in accounting rely on theories derived from other disciplines, like economics, management or other behavioral sciences.

The Basel Committee on Banking Supervision (1999) states that from a banking industry perspective, corporate governance involves the manner in which the business and affairs of individual institutions are governed by their boards of directors and senior management. This affects how banks: i) set corporate objectives (ii) run the day-to-day operations of the business; (iii) consider the interest of recognized stakeholders; and (iv) align corporate activities and behaviours with the expectation that banks will operate in safe and sound manner, and in compliance with applicable laws and regulations; and protect the interests of depositors ((Jensen & Meckling, 1976).

On a theoretical perspective, the underlying premise of enterprise risk management is that every entity exists to provide value for its stakeholders. All entities face uncertainty and the challenge for management is to determine how much uncertainty to accept as it strives to grow stakeholder value. Uncertainty presents both risk and opportunity, with the potential to erode or enhance value. Enterprise risk management enables management to effectively deal with uncertainty and associated risk and opportunity, enhancing the capacity to build value. Value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploys resources in pursuit of the entity's objectives.

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It is not a disputed fact that banks are crucial element to any economy; this therefore demands that they have strong and effective risk management practices if their positive effects were to be achieved (Basel Committee on banking supervision, 2003). Levine (1997) emphasized the importance of ERM of banks in developing economies and observed that: first, banks have an overwhelmingly dominant position in the financial system of a developing economy and are extremely important engines of economic growth. Second, as financial markets are usually underdeveloped, banks in developing economies are typically the most important source of finance for majority of firms. Third, as well as providing a generally accepted means of payment, banks in developing countries are usually the main depository for the economy's savings.

Although banking crises are caused by many factors, some of which are beyond the control of bank management, almost every bank failure is at least partially the result of mis-management within the bank itself. And mis-management is ultimately a failure of internal governance mechanism. Although banking supervision and the regulation of banks" risk positions can go some way towards countering the effects of poor governance, supervision by some external official agency is not a substitute for sound ERM practices. Ultimately, banking risks are most likely to be reduced to acceptable levels by fostering sound risk management practices within individual banks. An instilling sound and holistic risk management practices within banks is a crucial element of achieving this.

A theoretical framework specifies which key variables influence a phenomenon of interest and also what variables to measure the basis for relationships between the variables (Lee & Kim, 1999). The theoretical framework for this study focuses on the relations between the independent variables and the dependent variable moderated by board characteristics. The stage of ERM implementation is the dependent variable while the regulatory influence, internal audit effectiveness, human resource competency and top management commitment are the independent variables with board characteristics as the moderating variable. These variables have been comprehensively discussed in hypotheses section.

The research framework of this study is the extension of the studies by Beasley *et al.* (2005), Descender, (2011); Yazid *et al.*(2012), Manab and Kassim (2012) which, is applicable to listed companies in developed countries and emerging economies. This study fills the research gaps and extends the research frontier to the banking sector in

a developing country like Nigeria.Several studies examined risk management practices in Nigeria (see, Ajibo, 2015; Fadun, 2013; Njogo, 2012; Owojori, Akintoye & Adidu, 2011). However, some of these works were either conceptual in context or focus on other areas/ industries. Therefore, past studies have ignored the empirical examination of the antecedents of ERM implementation in the banking sector and the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation, particularly in a developing country like Nigeria. Similarly, the study by Manab and Kassim (2012) also suggests future research on differences in ERM implementation among different economies around the world. These variables were selected based on empirical studies, prior literature and the issues discussed in the problem statement.

3.2.1 Objective of Research Framework

In Nigeria, many companies are looking forward to implement ERM program because of its rising importance and contribution to shareholder value. Nevertheless, empirical research towards ERM is still lacking. In response to that, this study tries to resolve this problem by developing and proposing a framework that will assist banks to adopt ERM.

The primary objective of this study is to examine the current state of ERM practices and to determine the stage of ERM implementation in the Nigerian banking sector. The study further evaluated the effect of the antecedents on ERM application. Additionally, the study assessed the moderating effect of board characteristics on the relationship between the antecedents (regulatory influence, internal audit effectiveness, human resource competency and top management commitment) and the stage of ERM implementation. The research indeed aims at coming up with a theoretical framework that contributes to the understanding of ERM practices in the developing countries through the exploration of ERM practices in the Nigerian banking sector.

The research framework is further underpinned by the agency theory that provided a plausible explanation for the variable of interest and the predictor variables. However, many theories have been used to provide explanation to the concept of ERM. Some of them include; Agency theory (Daud; Yazid; Hussin, & Rasid, 2010;Desender, 2007), Decision theory (Aebo, 2004), Contingency theory (Hudin & Hamid 2014;Wawera &Kisaka, 2013; Woods, 2009), System thinking theory (O'Donnell, 2005), Institutional theory (Collier & Woods, 2011; Hood & Young, 2005;Hudin & Hamid, 2014;Hines & Peters, 2015;Nocco & Stulz, 2006).The underpinning theory and the supporting theory of this study are discussed below.

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3.2.2 Agency Theory

Agency theory is based on modern corporations, when there is a separation of ownership and management. As a result, there could be a departure from the shareholders maximization and conflicts of interest between managers and shareholders. Agency theory is an assumption that tends to explicate the association between principal and agent in the business. In its modest form, agency theory elucidates the agency problems that emanates from the separation of ownership and control. Davis, Schoorman, and Donaldson (1997) look at it as:

"providing a useful way of explaining relationships where the parties' interests are at odds and can be brought more into alignment through proper monitoring and a well-planned compensation system" (p.24).

Agency theory addresses the troubles that can exist in agency relationships. That is between a principal (shareholders) and the agent of the principal (company executive) concerning monitoring costs. The divergence of agents and principals can create information asymmetry and result in agency costs (Farrer & Ramsay, 1998). This includes the costs of structuring the contracts, costs of monitoring and controlling the behaviour of agents, and loss incurred because of sub-optimal decisions taken by the management. Agency theory is used to assess the roles and contributions of the Board of Directors in relation to their performance in the organization they govern ((Fama & Jensen, 1983).

The foundation of agency problem can be traced to the origin of Jensen and Meckling (1976) and Holmstron (1979) and a host of authors. Jensen and Meckling (1976) define the agency relationship in terms of

"A contract under which one or more persons (the principal(s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent" (p.312).

Because of lack of trust in the managers, there is a need for them to be carefully monitored so that the shareholders" interests are met (Fama & Jensen, 1983). Two ways of monitoring the managers are Board of Directors and compensation schemes to align the interests of the agents with the interests of the principal. Fama (1980) considered the Board of Directors as a way of controlling managers in a low cost manner. Agency theory supports the delegation and the concentration of control in the Board of Directors and use of compensation incentives. The Board of Directors monitors agents through communication and reporting, review and audit and the implementation of codes and policies.

The two main agency problems are: conflict of interest on the constituent of the managers and the cost of monitoring by the principal and the attitude of both of them towards risk. The theory postulates that the firm consists of the relationship contract between the owners of the economic capitals (principal) and managers (agent). The agency theory recommends series of mechanisms that try to reconcile the interests of shareholders and managers. This will also ensure the efficient utilization of internal control mechanisms. These include monitoring by non-executive directors (Fama & Jensen, 1983), monitoring by large shareholders, the incentive effects of executive share ownership (Jensen &Meckling, 1976) and the implementation of internal controls (Matsumura & Tucker, 1992).

Accordingly, an additional instrument of shareholder monitoring is the statutory audit that examine the annual accounts prepared by the management to express opinion thereon and the internal audit that performs consulting and advisory role to the Board of Directors to enhance their oversight functions over the top management (Watts & Zimmerman, 1983). The agency theory has become a key theory in the corporate governance literature as many studies have rest on it and incorporate other theories (Eisenhardt, 1989).

The managers have been given the responsibility of managing and controlling those resources (Jensen & Meckling, 1976). This is based on the understanding that the agents have more information than the principal. Therefore, the information asymmetry adversely impact on the principal's ability to efficiently monitor whether if their interests are being adequately served by the agents (Adams, 1994). It is the supposition of this theory that principal and agent acts reasonably and efficiently

using this contracting process to get the best utilization of their riches. The association between principal and agent will involve a contracting cost procedure whereby the principal will incur monitoring expenditure while the agent bears bonding cost.

With respect to the research objectives, this study adopted the agency theory because, it focuses on the Board of Directors as a monitoring mechanism and other external and internal monitoring mechanisms which dominate the corporate governance literature. The theory, also describe the relationship between providers of capital and those delegated to manage the businesses of the firm in line with several studies (Fama, 1980; Anderson *et al.*, 2004)).

3.2.3 Relationship between Agency Theory and Enterprise Risk Management

The agency cost signifies serious problems in corporate governance in the financial institutions particularly the banking sector. The separation of ownership and control in a professionally managed firm may result in leaders not putting enough effort. They become involved in taking advantage of a risky venture that pays higher returns. They choose inputs or output to accommodate their own personal interest or failing to assume the advantage of chances to improve firm value (Berger, Frame,& Miller, 2002). Banks have been the most important financial intermediaries in almost all economic systems.

Firms are likely to deliver more information about their investment than investors if ERM is effectively enforced. Agency theory tries to see a solution to the agency problems between shareholders and directors as well as management. In the literature, managers are perceived as unwilling to increase the risk to the point that would maximize stockholder value. Amihud and Lev (1981) indicate that managers in an attempt to fight the un-diversifiable human capital are encouraged to decrease the degree of risk. In the area of Corporate Risk Management (CORM), agency problems have been used to affect managerial attitudes toward risk taking and hedging (Liao, Chen, Lu, & Kuo, 2008).

The underpinning theory presents an explanation of variance of interest between shareholders, management and debt holders. It can affect asymmetry of information which affects the firm in taking too much risk or refusing to engage in positive net value missions (Mayers & Smith, 1987). The agency theory has emphasized the position that could facilitate an organization to reach its goal and invariably increase the value of shareholders (Bowen, 2006; Nocco & Stulz, 2006).

Some companies that embrace the programs of risk-based, or shareholder value management can create additional value for their shareholders and improve their performances (Bowen, 2006). Enterprise Risk Management will resolve the agency problem between stockholders (principal) and managers (agent). The managers consider all necessary measures to mitigate all risks that impede the accomplishment of the organization's objective that will continuously improve performance and enhance shareholder value.

The primary aim of every system with respect to ERM is to protect, create and enhance shareholder value and improve performance (Manab & Kassim, 2012).However, there is a universal opinion that when banks are facing greater competition, they rationally choose riskier portfolios (Boyd & De Nicolo, 2005). Such pressure can cause a momentous influence on supervisors and regulators. Still, there exist vital risk incentive mechanisms that control banks become riskier when their markets become more intense (Boyd & De Nicolo, 2005). Thus, the assessment of the stage of ERM implementation in the Nigerian banks will solve agency problems by actually implementing ERM that will mitigate all risks connected with the banking business which can impact the value of the shareholders as well as the stakeholders. Measures are taken to identify, assess, monitor and control all risks that can hinder the accomplishment of the bank's strategic objectives.

The board characteristics such as the independent directors, board size, board diversity, risk management committee, knowledge and experience of the board members will assist to ensure the success of ERM implementation. The top management support and commitment will serve to secure the integration of ERM in the organizational structures and the operations. Invariably, it will create awareness towards risk culture and risk appetite to identify all risks that could hinder the accomplishment of the aims of the organization. The backing and commitment of the top management will ensure the success of ERM implementation by making available the necessary resources. They can also create the social organisation and culture, competent cross functional staff and ensuring the strength of the internal audit department.

The central function of internal audit as regards ERM is to give assurance to the Board of Directors that the ERM is being enforced effectively in line with the framework and risk management mechanism. The internal auditing provides value to the establishment by rendering objective assurance that the significant business risks are being managed appropriately and also giving confidence that both the risk management and internal control framework are operating effectively and efficiently.

Human resource management places great importance on the competency level of the board, top management and cross functional staff, particularly their role in improving effective job performance, which enhances organizational competitiveness. Organisations should ensure compliance with rules, regulations and listing requirement of standards as regards risk management and corporate governance to minimize litigation and legal tussle.

The general provision of these codes is intended to enhance and sustain a sound risk management scheme. The carrying out of ERM will promote effective functioning, which will enhance shareholder value by identifying, assessing, controlling, monitoring and mitigating all risks that will impede the banks from achieving their corporate goals and targets. This will provide a solution to agency problem between the principal (shareholders) and agent (Managers) through ERM implementation benefits which enhances shareholder value and improves performance by mitigating risks associated with credit, market and operations.

3.2.4 Institutional Theory

The need to test the relevance of the institutional theory to explain the antecedents of ERM implementation especially in the light of regulatory influence is imperative. The institutional approach will provide support to the underpinning theory that is the agency theory. Hood and Young (2005) conducted a study on an alternative risk financing strategy that has been successful in authorities using institutional theory to

explain government intervention on risk pooling. The finding reveals that the perceived main legislative barrier to risk pools may no longer survive. Similarly, Nocco and Stulz (2006) examine theory and practices of ERM and note that entities implementing ERM should comply with regulatory provisions.

In addition, Hudin and Hamid (2014) proposed a framework for examining ERM drivers to the ERM implementation using the combination of institutional and contingency theories to explain the rationale for the selected variables that influence the implementation of ERM in organisations. The paper suggested further studies on the application of these theories in ERM adoption.

The underlying thought of the theory is that there are many social organizations, structures and patterns in organizations that attain legitimacy through the social construction (Meyer & Rowan, 1977). By implication, defined patterns are imposed coercively just like government mandatory laws and rules or mandate by external bodies like Basel Accord principles (Scott, 1987). This indicates that not all ERM implementation programs in the Nigerian banks emanated from the board decision process but largely compliance with the institutional mandate.

This is influenced by the social construction processes in which external entities influence the acceptance and carrying out of ERM practices that have gained a sense of authenticity. However, the problem of the regulatory regime has become critical to banking operations as it exerts much pressure to assure conformity with the rules and regulations by the banks and creates unnecessary costs (Arnold *et al.*, 2011). There is demand to introduce a risk-based regulation across all banks irrespective of their

status (Ajibo, 2015). Therefore, the institutional theory is further used to assist explain the basis behind the CBN intervention in terms of regulatory environment (Paape & Spekle, 2011).

3.2.5 Summary of the theoretical Framework

Enterprise Risk Management requires the operation of risk evaluation and mitigation. This can only be successful if there is strong leadership support and top management buy-in without which the ERM process is destined to fail. The Board of Directors and top management needs to be involved in putting the tone from the top and creating a risk culture across the bank. The board also secures the integration of ERM in all processes, making available adequate resources and sustained continuous improvement of the level of ERM practices (Klefnner *et al.*, 2003; Manab &Kassim, 2012). In that respect are different approaches to seeing the maturity level of ERM deployment.

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A customized system is significant and mostly recommended based on the banks specific peculiarities or best practices. An in-depth knowledge of the organization's operations, input from people through interviews and extensive research will be an added advantage (Coelli, Rao, O'Donnell,& Battese, 2005). Nevertheless, regardless of the approach adopted, the process should be embedded and mixed into the structures and systems of the entity and should support the aims, mission, vision and values of the bank. Based on the previous literature and research problem, supported by agency theory, a theoretical framework has been developed for this study. The framework was developed based on the extant literature (Bealsey *et al.*, 2005; Desender, 2007; 2011).

The theoretical framework for this study focuses on the effect of the independent variables on the dependent variable moderated by board characteristics. The stage of ERM implementation is the dependent variable while the regulatory influence, internal audit effectiveness, human resource competency and top management commitment are the independent variables with board characteristics as the moderating variable. Control variables were also added which include, bank size, auditor type, bank complexity, CRO existence and NSE listing. These variables were selected based on the reviewed literature and issues highlighted in the problem statement. The theoretical framework is depicted in figure 3.1



Figure 3.1: Proposed Theoretical Framework

3.3 Conceptual Model and Hypothesis Development

Previous literature suggests that the existence of corporate governance mechanisms will bring about an increase in monitoring of top management activities that can cut down the incidence of mismanagement in the system. Therefore, effective corporate governance, especially the role of the Board of Directors may enhance the firm's value. Safieddine (2009) suggests that good corporate governance involves the dynamic participation of all stakeholders, including the board oversights and internal control system of the enterprise.

Consequently, this research examined the current state of ERM practices and further determined the stage of ERM implementation. The study also evaluated the effect of the antecedents on the stage of ERM implementation and the moderating effect of the Board of Directors' characteristics on the relationship between the antecedents and the stage of ERM implementation to enhance shareholder value.

Thus, the hypotheses of this survey were prepared based on the corporate governance mechanism with respect to ERM implementation in the Nigerian banking sector. They include regulatory influence, internal audit effectiveness, human resource competency, top management commitment and board characteristics as the moderating variable while the stage of ERM implementation is the dependent variable.

3.3.1 Research Hypotheses on the effect of Antecedents on the Stage of ERM Implementation

Several studies support the value addition of ERM and its advancement of organizational performance (Al-Tamimi & Al-Mazrooei, 2007; Beasley *et al.*, 2005; Goldshan & Rasid, 2012; Hoyt & Liebenberg, 2009; Nocco & Stulz, 2006). Most of the studies show a positive effect on the relationship between ERM practices and stage of risk management implementation.

Hoyt and Liebenberg (2008) examine the extent to which specific firms have implemented ERM programs in the US and also assessed the implications of those plans. The findings show a positive effect on the relation between firm value and the role of ERM. Similarly, Manab and Kassim (2012) analyze the determinants of the success of ERM application, compliance, with corporate governance and value creation in for-profit companies. The outcome indicates that financial companies said that they adopted their EWRM practices due to corporate governance, compliance, good business practice, improved decision making, and survival of the enterprise and value creation. Furthermore, Pagach and Warr (2007) examine characteristics of firms adopting ERM. The study finds that companies that are more leveraged have more volatile earnings and have exhibited poor stock market performance are more likely to initiate an ERM program.

Various surveys have also been taken on the determinants of ERM adoption in both privately and publicly listed companies (Beasley, *et al.*, 2005; Colquit *et al.*, 1999; Desender, 2007; Hoyt & Liebenberg, 2008; Kleffner *et al.*, 2003; Pagach, 2010; 2011). Beasley *et al.* (2005) examine the factors that influence ERM implementation. The study finds that the stage of ERM implementation is positively linked with the existence of the board independence, a CRO, CEO and CFO apparent support for ERM. Other factors associated are; the engagement of a Big4 auditor, entity size, and entities in the banking, education, and insurance industries.

The study measured the stage of ERM implementation through an ordinal scale. The categorical ordinal variable, which is the outcome variable was measured by complete ERM in place, partial ERM in place, planning to implement ERM, investigating
ERM, no decision yet and no Plans to implement ERM (Colquitt *et al.*, 1999; Klefnner *et al.*, 2003; Kassim & Hussin, 2010; Manab & Kassim, 2012; Yegon, Mouni & Wanjau, 2014). Moreover, the study by Razali, Yazid, Shukri,& Mohd (2011) examine the causal factors of ERM practices of Malaysian public listed companies and classified the level of ERM adoption into whether a company adopted ERM or not.

This study initially adopted the ordinal categorical variables measurements used by Beasley et al. (2005), Colquitt et al.(1999), Klefnner et al.(2003), Kassim and Hussin, (2010) and Yegon, Mouni and, Wanjau, (2014). However, based on the inputs from the pilot test, suggestions by the experts and focus group for the validation of the instruments, this study measured the stage of ERM implementation as a dummy variable, using the nominal scale. ERM is completely in place, 1, but if otherwise, 0. This was based on the ground that the implementation of ERM in the Nigerian banking sector is compulsory due to the mandate given by the CBN in 2011 (CBN, 2012). Therefore, the banks hold no choice but either to implement wholly or partly. Based on the extant literature (Colquitt et al., 1999; Desender, 2007; Klefnner et al., 2003; Manab et al., 2012), this study also examined factors related to the current state of ERM practices in the banks as objective one to provide further explanation in support of the stage of ERM implementation in the banks. Though, the constructs are not part of the main framework of this study. These factors are however in line with previous studies (Colquitt et al., 1999; Klefnner et al., 2003; Manab et al., 2012) which provide evidence on the current activities of risk management practices to signal the commencement of ERM adoption. Therefore, descriptive statistics is also used to explain the present focus of ERM efforts, the strategy for the development of a current ERM framework, the motivation for ERM adoption and the areas of risks that present possible threats and become a top priority for the bank.

3.3.2Regulatory Influence

Global concerns about risk exposures have been increasing. In this arena, enterprises of all kinds and sizes want robust ERM frameworks that satisfy compliance demands, contribute to better decision making, and enhance performance. Violations or nonconformance to laws, rules, regulations, ethical standards, and policies can jeopardize earnings, capital, and reputation of the organisation. Current pressures to provide strong and sustainable risk-adjusted returns on capital influence financial companies to invest in improved approaches for measuring risks (Embrechts, Furrer, & Kaufmann, 2003; Kuritzkes, Schuermann, & Weiner, 2003). Regulators in many countries, including Canada, the United States, the United Kingdom, and some emerging economies, are pressing firms for better risk reporting and for more integrated and comprehensive risk management. This exerts a lot of pressure on the company's decision to implement ERM as a result of the change in expectations regarding effective corporate governance.

It is generally observed that these pressures are mounted by faculty members and public commentators, regulators and professional bodies to improve ERM practices and risk reporting (Collier, Berry,& Burke, 2007; El Kharbili, 2012; Kleffner *et al.*, 2003; Paape & Spekle, 2011). Abdullah, Sadiq, and Indulska (2012) indicate that solid decision to implement ERM is influenced by outside elements such as corporate governance, laws, and regulatory submissions. Looking at corporate governance, the effect of the British Colonial administration provides a framework for Nigerian

corporate governance in Nigerian Stock Exchange (NSE) listing requirements, concentrating on transparency and accountability in the corporation's governance. However, various reforms were applied as a way of providing the transparency, accountability and protection of shareholder's interest after the financial crisis. These include the promulgation of Codes of Corporate Governance by the NSE in 2006 for all listed companies in Nigeria as well as the CBN in 2007 for banks.

The execution of the principles of these Codes is required for publicly listed entities. In Nigeria, banks listed on the Nigeria Stock Exchange (NSE) are asked to comply with the Codes of Corporate Governance of the NSE as well as the CBN. These Codes contained general provisions as to the upkeep of a sound risk management process. It has frequently been argued that ERM initiatives within firms rise in reaction to regulatory pressure (Collier *et al.*, 2006). Because this pressure is more for publicly listed companies, it is expected that such firms are more probably to adopt ERM (Kleffner *et al.*, 2003).As regards the regulation of bank capital, capital adequacy ensures the firmness and stability of the bank and likewise for its vital purpose in the corporate governance of banks.

Likewise, internal pressure from the board, shareholders, professional connections, top management is playing a big part in the carrying out of the ERM. It has been argued that ERM implementation originated as a result of regulatory pressure (Paape & Spekle, 2011). Most of the Codes of Corporate Governance provide for the sustainability of sound risk management practices in organizations.

Paape and Spekle (2011) using data from 825 organizations, examine the extent of ERM implementation and the factors that are associated with cross-sectional

differences in the level of ERM adoption in the Netherlands. The findings reveal that the extent of ERM implementation is influenced by the regulatory environment, internal factors, ownership structure, and firm and industry-related characteristics. However, a study by Kleffner *et al.* (2003) finds no substantial deviation in the Canadian firms that are listed on Toronto Stock Exchange (TSE) and those not listed. This has shown mixed findings in the result of the regulatory influence that demand further evaluation.

The need to provide plausible evidence shows the relevance of institutional theory in explaining the influence of regulatory authorities in ERM deployment in the Nigerian banking sector. This provides support to the underpinning theory that is the agency theory. By implication, defined patterns are imposed coercively just like government mandatory laws and rules or mandate by external bodies like Basel Accord Principles (Scott, 1987), professional associations and the rating agencies. To enhance effective banking supervision, there is a demand to introduce a risk-based regulation across all banks irrespective of their status (Ajibo, 2015). Thus, a related hypothesis examined in this study is:

H1: There is a positive effect of regulatory influence on the stage of ERM implementation.

3.3.3Internal Audit Effectiveness

Various definitions of internal audit effectiveness abound in the pertinent literature. Internal audit effectiveness implies the role of the internal auditors to achieve the set goals of the organization (Arena & Azzone, 2009; Dittenhofer, 2001). Feizizadeh (2012) argues that in order to achieve greater levels of internal audit effectiveness, consideration must be given to four basic elements which include; makes best of abilities, performance measures, stakeholder needs; and compliance with relevant professional standards. Internal auditors should exploit the opportunity to educate the management regarding the self-evaluations concerning risk identification and evaluation of the internal controls and risk management practices within the organizations (Cristina & Cristina, 2009). The internal auditors should also possess the requisite qualification and technical power to perform adequately analytical jobs, and facilitation skills and value added activities (Badara & Saidin, 2014).

The IIA (2009) provides the conditions necessary for the internal audit to be efficient in the execution of their functions as regards risk management implementation. The internal audit requires the appropriate expertise, skills and knowledge to perform duties in the field of risk management. Badara and Saidin (2014) while examining the empirical evidence of the antecedents of internal audit effectiveness in Nigerian local government, find a positive association between risk management and internal audit effectiveness. Several studies (Arena & Azzone. 2009; Cohen & Sayag, 2010) find that the internal audit effectiveness has an impact on organizational performance and enhancement of shareholder value through ERM implementation. Most of these studies emphasized the new roles of internal audit in the implementation of ERM in organizations.

Furthermore, The IIA (2004; 2011) specified the internal auditor's involvement in ERM. Such roles include playing active role in ERM process, giving support to ERM by providing assurance on critical controls and development of new techniques for monitoring, review and communication to improve the effectiveness of ERM and

governance in their organisations. The assurance provided by the internal auditors to the stakeholders is a key requirement of ISO 31000 which provides explicit approaches and guidance on ERM process. Therefore, internal audit has to update its role and responsibilities to support continuous improvement of ERM implementation.

Sobel (2011) examine the state of internal auditing and its role in risk management. The outcome reveals that audit committees do not sufficiently rely on the internal auditors to provide advice on risk management, and that only about one-quarter of the internal auditors examined said that they had primary responsibilities for risk management. The central roles of internal auditors, as identified, were to provide informally consulting and advice on risk management, to facilitate the identification and evaluation of critical risks, and to participate in the identification of emerging risks. Therefore, Sobel (2011) notes that there are opportunities for internal auditors to be more involved in providing assurance on risk management while evaluating strategic risks, and educating management and audit committees on risk and risk management concepts.

Similarly, Abdullatif and Kawuq (2015) find that internal audit involvement in ERM system has been on the increase over the years. The level of participation has now been included in the International Standards for the Professional Practices of Internal Auditing (ISPPIA) issued by the Institute of Internal Auditing (IIA). The IIA further published a position paper (IIA, 2009) on the roles that internal auditors should, could and should not assume in ERM adoption.

The status of the internal auditor also needs a person instilled with certain indispensable qualities to enhance effectiveness. The internal auditor should also have the requisite qualification and technical knowledge to effectively perform analytical jobs, facilitation skills and value added activities (Badara & Saidin, 2013). To this end, Beattie and Fearnley (1995) assert that the requirement for audit inspection and opinion, whether external or internal is due to agency demand and information demand that is explained by agency theory. Generally the firms request services of auditors to assist control the conflicting interest prevailing midst shareholders, bondholders, managers and other stakeholders in the system (Jensen & Meckling, 1976). Hence, the needs for examining the effect of internal audit effectiveness on ERM implementation. Thus, a related hypothesis in this study is:

H2: There is a positive effect of internal audit effectiveness on the stage of ERM implementation.

3.3.4 Human Resource Competency

Dynamic business environments and organizations realize the value of a workforce that can quickly adapt to change, communicate effectively, and foster interpersonal relationships. These skills are vital to organizational survival, productivity, and continual improvement. Competencies provide a common language and a foundation for integrating different skills and expertise across the organizational and operational structures that enhance efficiency and effectiveness. Competency refers to the knowledge, skill and abilities that a person may have. Accordingly, certain essential features are associated with competency level. These include: education, professional qualification, training, experience and knowledge of the organizations operations (AlTwaijry, 2004; Gibbs & Schroeder, 1979; Messier & Schneider, 1988; Schneider, 1985).

Human resource competencies are the ethics, knowledge, and skills of human resource professionals. Human resource competency (HRC) has been linked with better turnover, productivity, financial returns, survival, and firm value (Huselid 1995; Beltrán-Martín, Roca-Puig, Escrig-Tena, & Bou-Llusar, 2008). Therefore, human resource competency entails the level of awareness, instructions and training, mental ability, capacity and capability building of the bank's personnel, including ERM staff about risk management organizations, tools, its procedures and applications (Yaraghi & Langhe, 2011).

Various studies (Al-Twaijry *et al.*, 2004; Schanfield & Helming, 2012; Yaraghi & Langhe, 2011) examined human resource competency in terms of training and development, and others look at it from experience and knowledge perspective, and others considered it in the light of education and training. Human resource professionals with the right skills will invariably perform better. They will be more likely to appoint employees, to assist customers, and to create intangible shareholder wealth (Ulrich, Brockbank, Johnson, & Younger, 2009).

An organization's control environment in terms of ERM implementation can be seriously eroded if an important number of positions are occupied by persons lacking appropriate job skills. Top management will face the challenges from time to time when a person has been appointed for a particular job, but does not seem to have the suitable skills, training, or intelligence to execute that job. This creates operational risks, because all humans have different levels of competency, adequate supervision and training should be available to assist employees until appropriate skills are acquired (Moeller, 2007).

Using competency as the base for staffing offer the flexibility required to select and place individuals where they can best help the organization (Rodriguez, Patel, Bright, Gregory, & Gowing, 2002). Many governing bodies realize the connection between high-performing people, the organizational culture that supports mission achievement, and high-performing firms. High-performing people are critical for high-performing enterprises, whether pushed by the desire to improve efficiency, profitability, or, productivity, or by the desire to provide world-class customer service. Human resource competencies offer the foundation through which human resource professionals can pull in a substantial contribution to the success of their organization (Rodriguez *et al.*, 2002).

Universiti Utara Malaysia

This is indeed a human resource management terminology but mirrored into risk management because of the relevance to operational risk in the banking sector. Increasing the competitiveness of an organization's workforce enhances higher opportunities of being successful. Selecting talented and high-potential people to carry out the organization's mission and making a culture that supports them is a critical task. Competencies provide an avenue through which human resource professionals can make a significant contribution to the success of their organization (Spencer & Spencer, 1993). The competency level of the Board of Directors and top management will enable them to exploit opportunities and minimize threats associated with risks for the benefit of the bank particularly enhancing competitive advantage.

From the side of the agency theory, a contractual relationship exists between an employer (principal) on one hand and an employee (agency) on the hand. This contractual relationship may face more or fewer difficulties to the extent that the employer and the worker may have different goals. Thus, when the company is monitoring the employee's action, it becomes unmanageable because the employee will resist due to differing goals or pursuits. In the organization too, everybody is a stakeholder including the employees, and their actions are subject to monitoring by the principal.

The competency level of the Board of Directors, top management and cross sectional staff of the bank will facilitate the execution of risk management practices. It will also offer the necessary capability to cope with the complexity within the bank so that they possess the power and technological knowledge to identify measure, communicate, monitor and control all risks connected with the bank targets. Consequently, there is a demand for examining the relationship between human resource competency and the stage of ERM implementation. Thus, a related hypothesis in this study is:

H3: There is a positive effect of human resource competency on the stage of ERM implementation.

3.3.5Top Management Commitment

Visible leadership by the top management is a critical component to an effective ERM process. Those organizations that have started the implementation of ERM can attest to the reality that the adoption of an enterprise-wide view of risks which requires that risk information be made known transparently across individual units within the

organization. It also requires a significant change in the corporate philosophy or mind-set of top management and cross sectional staff within the entity. As employees across the organization are held responsible for the ownership of risks within their areas of responsibility, top management leadership is needed to strengthen the position of this drive toward a more transparent, holistic view of risk management (Fraser & Simkins, 2009).

By putting the right people in proper jobs and giving adequate training as appropriate, an enterprise is thus establishing a dedication to competence, a critical ingredient in the enterprise's overall control environment. Top Management often finds it beneficial to evaluate whether adequate position descriptions have been made, whether processes are in operation to put the good people in those places, and whether training and supervision are sufficient (Moeller, 2007).

The implementation of ERM in organizations, particularly banks, primarily depends on the support and commitment of the leadership (Manab & Kassim 2012). The decision to implement ERM program commences by the Board of Directors who have the primary responsibility for the risk management process. Top management commitment is a crucial part of the ERM process implementation. The top management commitment and support are also required, especially towards the adequate provision of resources, structure, and creation of a risk management culture that enhances implementation. The success of ERM implementation depends very much on the commitment and support of the top management whereby they are required to identify, evaluate, control and monitor risks associated with banks objectives (Waite, 2001). Perrin (2002) suggests that the application of an ERM framework, particularly at the initial stage of implementation requires strong support from the top management and Board of Directors. A number of studies (Altuntas *et al.*, 2011; Ciocoiu *et al.*, 2009; Fadun, 2013; Manab & Kassim, 2012; Walker *et al.*, 2002) analyze the influence of top of management on the carrying out of ERM process and find positive effect on the relationship between the top management support and commitment to ERM adoption.

Beasley *et al.* (2005) argue that top management support and commitment are very necessary and relevant for the successful execution of the ERM. Furthermore, Bowling and Rieger (2005) suggest that without the commitment, support, and capabilities of top management, the ERM program may fail to succeed, hence the need for a top-down approach and bottom up system of communication among the different levels of the bank. The top management support and commitment will serve to secure the integration of ERM in the organizational structures and the operations. Invariably, it will create awareness towards risk culture and risk appetite to identify all risks that could hinder the accomplishment of the aims of the organization. The backing and commitment of the top management will ensure the success of ERM implementation by making available the necessary resources. They can also create the social organisation and culture, competent cross functional staff and ensuring the strength of the internal audit department.

Agency theory addresses the troubles that can exist in agency relationships. That is between shareholders and the agent of the principal concerning monitoring costs. The divergence of agents and principals can create information asymmetry and result in agency costs (Farrer & Ramsay, 1998). In the literature, managers are perceived as unwilling to increase the risk to the point that would maximize stockholder value. Amihud and Lev (1981) indicate that managers in an attempt to fight the undiversifiable human capital are encouraged to decrease the degree of risk. Thus, a related hypothesis in this study is:

H4: There is apositive effect of top management commitment on the stage of ERM implementation.

3.3.6 Moderating Effect of Board Characteristics on the Relationship between the Antecedents and the Stage of ERM Implementation

Corporate boards globally have been attracting a great deal of attention in the past years because of corporate failures and concerns around the functioning of corporations and the manner they are regulated. Ahmad (2014) suggests that ERM is a critical part of the corporate system. The Code of Corporate Governance apparently split out the guidelines for the Board of Directors to adequately perform their duties concerning monitoring role, even using internal or external monitoring mechanisms such as auditors. The majority of banking laws places the ultimate responsibility for risk management practices with the Boards of Directors (Greuning & Bratanovic, 2000). Board roles and characteristics vary widely among national cultures and, within each country, among different company types (Entebang & Mansor, 2011).

From the organizational perspective, the board can be defined as a team brought together to work toward achieving organizational goals (Langton & Robbins 2006). Different studies emphasize on the importance of Board of Directors and also to see how the strategic role of boards can affect the firm's performance. Kajola and Sunday

(2008) put emphasis on the control on the Board of Directors. They state that the Board of Directors assigns to the CEO and other management staff, the day to day management of the interactions of the firm. Others top tasks of the board contain setting policy, vision, monitoring performance and other financial issues. Clearly the board composition and characteristics are important pioneers to effective group decision making about ERM implementation.

Various studies have been conducted using Board of Directors as a moderating variable. For example, Li (2012) examine the moderating effect of the Board of Directors and managerial stock ownership on the relationship between research and development (R& D) investment and firm performance in China. The finding reveals a negative moderating effect on the relationship between the Board of Directors and the board meeting, management ownership, and board ownership. In the same way, Aebi *et al.* (2012) reveal that the board and top management support have a moderating effect on the relationship between the level of ERM practices and bank performance.

Likewise, Al-Matari, Al-Swidi, Fadzil, and Al-Matari (2012) examine the impact of board characteristics on firm performance from Non-financial Listed Companies in Kuwaiti Stock Exchange using independent variables such as CEO duality, COE tenure, audit committee size, board size and board composition while using the firm size and leverage as a control variables. The findingssupport the positive effects of CEO duality and audit committee size on ROA. However, secondary data was used for the study. Similarly, Saleh, Iskandar, and Rahmat (2005) examine earnings management and board characteristics in Malaysia using five main characteristics of Board of Directors consisting of board composition, board size, directors' ownership, number of directorships and duality status of the chairman and CEOs. The study used size, leverage and Performance as control variables. Equally, Akpan and Amran (2014) examine the association between board characteristics and company performance (proxy by turnover). The study used 90 sampled firms listed on the Nigerian Stock Exchange (NSE) from 2010 to 2012. The variables used are: board size, board independence, board education, board equity, and board age, and board women. The study adopted quantitative approach using secondary data.

Additionally, Manab and Kassim (2012) carried out a study and investigated the moderating effect of leadership factors on the relationship between ERM framework and ERM critical success factors on shareholder value. The finding reveals that leadership factors moderate the relationship between ERM framework and the key factors on shareholder value. Furthermore, Waweru and Kisaka (2015) obtain a negative correlation between board independence and the level of ERM implementation of companies in Kenya.

The extant literature reveal the features of the Board of Directors in terms of size, board age, independence, inside and outside directors, frequency of board meetings, gender diversity, educational background, experience and expertise, existence of risk management committee, equity ownership and executive compensation (Aguilera & Cuervo-Cazurra, 2009; Hassan & Ahmed, 2012). Yatim (2009) finds that it takes a solid board of directors to make a risk management committee. Various studies ((Beasley, 1996; Fama & Jensen, 1983; Golshan & Rasid, 2012; Pathan, 2009)tested the role of the board of Directors using different characteristics depending on the nature and scope of the study.

Therefore, this study having reviewed the extant literature and conducted critical evaluation of the issues highlighted in the problem statement, selected the board characteristics essential elements in consideration of the Nigerian regulatory environment and its peculiarities (Code of Corporate Governance, 2003). The characteristics include board size, board independence, equity ownership, gender diversity, educational background, knowledge and experience which are used as items. These features of the board have been tested and had mixed findings in the literature. The study adopted quantitative approach using survey. As the board's role is important in risk management, thus; the board's involvement in ERM will give a significant positive impact on the level of ERM implementation. Thus, related hypotheses in this study are:

- H5: There is a moderating effect of board characteristics on the relationship between regulatory influence and the stage of ERM implementation.
- H6: There is a moderating effect of board characteristics on the relationship between internal audit effectiveness and the stage of ERM implementation.
- H7: There is a moderating effect of board characteristics on the relationship between human resource competency and the stage of ERM implementation.
- H8: There is a moderating effect of board characteristics on the relationships between top management commitment and the stage of ERM implementation.

3. 4 Control Variables

Five control variables have been added in this study based on the extant literature. They include bank size, proxy by the total assets, auditor type, which is a dummy variable, Big4, a dummy variable, bank complexity proxy by the number of branches, existence of CRO and NSE listing are measured as dummy variables. Nevertheless, all the control variables have been reflected in the demographic profile of the bank in the research questionnaire in appendix A. Several studies (Desender, 2007; Liebenberg &Hoyt, 2003; Paape & Spekle, 2011; Pagach &Warr, 2007) tested control variables in their studies. Various studies (Bealsey *et al.*, 2005; Desender, 2007; Kleffner *et al.*, 2003; Paape & Spekle, 2011) find a significant relationship between the auditor type and the extent of ERM implementation.

Yatim (2010) concludes that there is a positive correlation between firm size, complexity of operations and the use of Big4 auditors with the establishment of a risk management committee. Similarly, Pagach and Warr (2007) and Gordon *et al.* (2009) find firm complexity significantly related to the hiring of CRO and ERM-firm performance respectively. Several studies (Beasley *et al.*, 2005; Pagach &Warr, 2007; Walker *et al.*, 2002) have built meaningful relationships between the firm size and ERM implementation.

In addition, Daud *et al.* (2010) examine the level of ERM) adoption within the Public Listed Companies (PLCs) in Malaysia and the influence of Chief Risk Officers (CROs) on ERM practices. The findings show that only 42% of the companies surveyed have completely adopted ERM and the quality of CROs has a strong influence on the level of ERM adoption. Similarly, Paape and Spekle (2011) find the

presence of both a CRO and an audit committee to contribute to the degree of ERM implementation. In the same vein, the authors also find that publicly listed companies have more mature ERM systems but do not find support for the influence of Code of Corporate Governance on the degree of ERM adoption except for the effect of NSE listing. This implies that mandatory application of a set of governance rules does not affect ERM development in some respect.

However, regulators in many countries, including Canada, the United States, the United Kingdom, and some emerging economies, are pressing firms for better risk reporting and for more integrated and comprehensive risk management. This exerts a lot of pressure on the company's decision to implement ERM as a result of the change in expectations regarding effective corporate governance.

It is argued that companies choosing to adopt the ERM strategy need a person or group of persons responsible for the coordination of the entire ERM program, and also the communication of goals and results to the Board of Directors concerned (Daud *et al.*, 2010).Similarly, Liebenberg and Hoyt (2003) suggest that it is better to manage such risks via a single organizational unit or individual that bears direct responsibility for supervising the entire process rather than via a committee or group of committees. It is generally noted that the position of CRO also requires a person instilled with certain requisite qualities. It is argued that the two (2) key qualities that need to be the character of CRO are strong advocate of teamwork and communication.

In like manner, Rosa (2006) postulated that qualities of a successful CRO are well developed risk-consciousness, knowledge of main business processes, current education in ERM curriculum, communication skills that include the ability to work closely with individuals at all levels, facilitation skills including appropriate skills in insurance, finance and accounting. Therefore, the relevance of CRO and Code of corporate Governance with respect to regulatory influences is imperative and effect significant impact on ERM implementation.

3.5 Conclusion

This chapter discussed the theoretical framework and the objective of the framework. It also demonstrated how to accomplish the research objective through testing of the theories and the models. The underpinning theory is also discussed to give a plausible explanation for the variation in the dependent variable. The variables tested include; the regulatory influence, internal audit effectiveness and human resource competency. Others are top management commitment while board characteristic is tested as a moderating variable. The framework was developed based on the extant literature that is aimed at enhancing the current ERM practices through the adoption of international best practices in the Nigerian banks to enhance shareholder value.

CHAPTER FOUR

RESEARCH METHODS

4.1 Introduction

The previous chapter presented the research framework work, hypotheses development, and the methods of achieving the objectives of the study with the explanatory theories. This chapter is split into five sections to further enhance the objectives of the study. Specifically, the first section presents the research design. The second section provides discussion on the respondents of the study consisting of the population and sampling frame while the third section covers the variables measurement and questionnaire development. Method of data analysis is highlighted in the fourth section and the last section presents the conclusion that ends the chapter.

4.2 Research Design

Research design is a framework that offers a procedure for data collection and data analysis (Bryman & Bell, 2011). Research design is also seen as an overall strategy that the researcher selects to integrate the different mechanisms of the study in a clear and consistent approach, thereby, ensuring how to effectively address the research problem (Bryman & Bell, 2011). It specifically defines the type, research questions, variables, hypotheses, and method of data collection and analysis. Research methods can also be classified into quantitative and qualitative methods. Quantitative methods on one hand include experiments, statistical analysis, and surveys, among others. On the other hand, qualitative methods include: participant observation, <u>content analysis</u> and interviews. This study adopted a quantitative method using a survey (Questionnaire). Quantitative methods can be measured and quantified (Ranong & Phuenngam, 2009). Quantitative method is generally useful when a researcher seeks to study large-scale patterns of behaviour. The quantitative method is a common research approach in the field of social sciences and business field (Sekaran, Robert, & Brain, 2001). It is also a research design approach that uses secondary data and cross sectional data and applies it in multivariate analysis. Ogbonnaya and Osiki, (2007) affirmed that questionnaire is the best and suitable means of data collection for a large population.

To achieve the primary objectives of this study, a post positivist philosophy as advocated by Creswell (2014) and Sekaran and Bougie (2009) was adopted. In line with several studies (Adeleye *et al.*, 2004; Al Khattab & Hood, 2015), the study chose a survey strategy to achieve the objectives of the study because of the large population involved in the research and for the purpose of generalisation of the results. The study used questionnaire to collect data from all the commercial banks registered by the CBN as at 31st December 2012. This study examined the current state of ERM practices and determined the stage of ERM implementation in the Nigerian commercial banks. The study further evaluated the effect of the antecedents on ERM implementation. The study also investigated the moderating effect of the board characteristics on the relationship between the antecedents and the stage of ERM implementation.

The reasons for the choice of survey approach include the following: (a) it has been widely used in the arena of business research; (b) it is in line with the post positivist paradigm and with the objectives of this study; and (c) indeed, it is the most common

approach adopted for primary data collection (Creswell, 2012). In particular, surveys represent the overwhelming choice for collecting primary data in risk management research (Al Khattab & Hood, 2015; Anchor & Benešová, 2012; White, 2004).

4.3 Respondents of the Study

4.3.1 Population and Sample for the Study

The population is defined as a set of all possible measurements of a phenomenon (Saidu, 2007). The population of this research includes the entire commercial (MDBs) banks licensed by the CBN operating as at 31st of December, 2012. Thus, the total banks operating in Nigeria as at 31st December, 2012 (CBN, 2012) is 21 with 5634 branches.

Table 4.1.

List of Commercial (MDBs) Banks and branches in each state of Nigeria as at 31st December, 2012

S/No	Banks	No. of
5/110.	Dairks	Branches
1	Access Bank Plc.	144
2	Citibank Nigeria Limited	13
3	Diamond Bank	162
4	Ecobank Bank Limited	561
5	Enterprise Bank Limited	150
6	Fidelity Bank Plc	214
7	First Bank of Nigeria Plc	686
8	First City Monument Bank Plc	313
9	Guaranty Trust Bank Plc	217
10	Heritage Bank Ltd.	11
11	Key Stone Bank	200
12	Main Street Bank	217
13	Skye Bank Plc	260
14	Stanbic IBTC Bank Ltd	174
15	Standard Chartered Bank Nigeria Ltd.	14
16	Sterling Bank Plc	175
17	Union Bank of Nigeria Plc	597
18	United Bank For Africa Plc	606
19	Unity Bank Plc	267
20	Wema Bank Plc	137
21	Zenith Bank Plc	516
	Total	5,634

The population, however, excludes the Development finance institutions, Cooperative banks, Primary Mortgage banks, Microfinance banks and other financial intermediaries. The list also excluded Jaiz bank (non-interest bank) which commenced operations towards the end of December 2012. Table 4.1 presents list of the commercial banks with the summary of branches in each state of the Federation.

Table 4.2 presents the summary of bank branches in each of the state including Abuja and the distribution of the questionnaire among the various cities as reflected in the sample frame. This is because the CBN only provided the number of bank branches in every state rather than only the capital city which is being used as a bench mark for this study. The number of branches in the eight states including Abuja is 2283 as presented in Table 4.2.

The banking sector has been preferred as the domain of this study because the business of banks is opaque and complex, which is active and can shift rather more quickly (Mehran *et al.*, 2011). Additionally, the banks are also exposed to a variety of risks such as; compliance risk, credit risk, information security risk, liquidity risk, operational risk which include; human resource risk, reputation risk, legal risk, customer satisfaction risk and leadership risk (Owojori *et al.*, 2011). Several researchers (Beasley *et al.*, 2005; Liebenberg & Hoyt, 2003; Pagach & Warr, 2007) provide plausible evidence that the financial industry have high level of ERM practices.

S/No.	Banks	Abuja	Bauchi	Enugu	Jos	Kaduna	Kano	Lagos	Port Harcourt	Total
1	Access Bank Plc.	8	1	2	1	1	2	38	7	60
2	Citibank Nigeria Limited	1					1	4	1	7
3	Diamond Bank	10	1	6	3	5	3	49	8	85
4	Ecobank Bank Limited	28	6	6	6	12	10	120	21	209
5	Enterprise Bank Limited	10	4	4	5	12	14	34	8	91
6	Fidelity Bank Plc	7	1	3	1	5	4	54	13	88
7	First Bank of Nigeria Plc	22	8	16	10	12	12	154	18	252
8	First City Monument Bank Plc	10	2	4	2	10	12	40	9	89
9	Guaranty Trukst Bank Plc	10	2	2	2	5	5	51	9	86
10	Heritage Bank Ltd.	2						5	1	8
11	Key Stone Bank	10	3	4	2	10	7	32	13	81
12	Main Street Bank	14	3	3	3	6	5	49	21	104
13	Skye Bank Plc	16	1	4	2	4	7	73	12	119
14	Stanbic IBTC Bank Ltd	8	2	2	2	4	7	47	9	81
15	Standard Chartered Bank Nigeria Ltd.	1		1				6	2	10
16	Sterling Bank Plc	12	S_2	2	2	Μą	a ₁₀	ia ₅₂	6	90
17	Union Bank of Nigeria Plc	11	6	14	5	9	11	113	22	191
18	United Bank For Africa Plc	33	7	10	8	14	14	171	31	288
19	Unity Bank Plc	18	4	1	7	12	14	32	8	96
20	Wema Bank Plc	5	1	1	1	4	1	46	3	62
21	Zenith Bank Plc	34	2	6	3	4	9	117	11	186
	Total	270	56	91	65	133	148	1287	233	2283

Table 4.2Distribution of Bank Branches in the Eight Cities

The basic reason for the continued increase in risk was attributed to the complexity, unpredictability, evolving risks and globalization of trading activities (Yegon *et al.*, 2014). Accordingly, the banks require a higher level of ERM implementation in order to assist them mitigate all risks that impede the achievement of the objectives (Beasley *et al.*, 2005).Enterprise Risk Management is usually adopted by bigger organizations such as banks and multinational corporations

(Miccolis, Hively, & Merkley, 2001). Generally, the banks are required to utilize the best corporate governance under the CBN Code of Corporate Governance and the Code of Corporate Governance issued by the Nigerian Stock Exchange (NSE) in line with international best practices while other companies operate under the NSE Code of Corporate Governance only.

Furthermore, the banks were selected in order to maximize comparability between firms within the same industry, exposed to the same level of competition, business environment and regulatory restraint. In the same vein, the banks have the same vulnerability to risks and seemed to display a sufficient measure of variation in the level of ERM practices and subjected to the same institutional pressure and Code of Corporate Governance. Moreover, commercial (MDBs) banks in particular are capital intensive and extremely competitive and intensively regulated industry with pressure to excel in performance, generate incentives and secure conformity with rules and regulations both locally and internationally.

The regulatory authority (CBN) has led the implementation of Basel 11 Accord principles and acceptance of risk management practices across the entire banking sector. The Codes of Corporate Governance issued by the CBN in 2012 and the one issued by the NSE in 2011 (Oscar, 2012) respectively incorporate the demand for the deployment and development of ERM process in the Nigerian banks.

Finally, the other banks such as Cooperative and Development Banks, Micro Finance Banks, Non-interest Banks are not, however, widely spread and are designed for a specific purpose and limited to a particular community or region. They therefore do not face the same level of risks as the commercial banks that transact across borders with stiff regulatory control in a complex environment and high level of technology. It is in line with these homogenous characteristics that the researcher selected the banking sector out of the entire financial industry for the current research. Thus, there is a need for an effective monitoring mechanism that will assist the banks to identify, measure, control, manage and mitigate all risks that can hinder them from attaining their corporate goals and objectives.

4.3.2 Sample Design/Frame

Sekaran and Bougie (2010) defined a sample as a subset of the population. It consists of some members or units chosen from the population. There are many types of sampling techniques in the area of academic research which are fundamentally classified into probability and nonprobability sampling. The most common probability techniques include stratified random sampling, simple random sampling, cluster sampling and systematic sampling. Briefly, random sampling is generally founded on the principle of randomization thereby providing for every component in the population an equal chance of being selected for the survey. In the same vein, systematic sampling is often used when large population exists and thus: randomly chooses a number (Bryman & Bell, 2015).

Similarly, stratified sampling is concerned with splitting up the entire population into sub-groups called "strata" as relevant to the researcher's study (Sekaran & Bougie, 2014). While cluster sampling deals with the choice of the group instead of individuals and mostly taken when there is large and widely spread population. Stratified sampling has the advantage of providing more accurate data since it guarantees that all strata are duly represented in the sample (Sekaran & Bougie, 2010).

In nonprobability sampling designs, the elements reflected in the population do not apply any probabilities in their being taken as sample elements. This means that the findings from the research sample cannot be generalized confidently to the population (Sekaran & Bougie, 2010). Nevertheless, this type of sampling is really economical and well executed. Nonprobability sampling techniques include convenience sampling, purposive sampling, judgmental sampling and quota sampling (Sekaran & Bougie, 2010). A simple definition of convenience sampling is to obtain the sample at convenience while purposive sampling is obtaining information from those who are most readily or conveniently available.

Likewise, judgmental sampling entails the selection of subjects or elements that are mostly placed or can better provide the information required. Thus; judgmental sampling is applied when a limited number or category of people have expert knowledge by virtue of their knowledge and experiences. They also have the capability to supply the information or data as required based on understanding, expertise and experience. The researcher takes the sample based on which respondent (s) would be appropriate for the subject. This is used when there are a circumscribed number of people that possess expertise and knowledge in the area being researched hence the population may lack definite size, and there is no sampling frame.

In this study, stratified random sampling and cluster sampling were used. The study first of all applied a stratified random sampling of probability technique to divide the population into three strata of top, middle and lower management in all selected branches and the head offices to ensure that all the different categories of staff are included (Babbie, 1990;Bryman & Bell, 2015).The involvement of the top managers will make the research more feasible because they are the brain behind ERM practices in terms of policy decision making, commitment to strategic planning, training and others in the organization while the lower managers are the real operators of the system who are directly involved in the implementation and evaluation of ERM practices. Several studies (Fraser & Henry, 2007; Olujide & Badmus, 1998; Okioga, 2013; Rawashdeh, 2014) adopted this approach in their studies.

As a result of this process, the distribution of the questionnaire was made of 20 percent of the respondents classified as top management, 35 percent were middle management and remaining 45 percent were defined as lower management. The rather high percentage of lower management (45 percent) was expected because the sample was heavily skewed towards managers operating at the branch level who were mostly lower management. However, the response rate of the respondents was very low especially with respect to the top management. This was partly due to the difficulty in accessing the top management who were mostly at the head offices of the respective banks. The distribution of the questionnaire among the branches was based on the number of branches in each state as per Table 4.2 and the related managers available in that particular branch because there was no exact number of staff or managers made available per each branch office.

Therefore, the distribution per department was not attainable because some of the departments or appropriate managers were not available in some branches and the

exact number of appropriate managers to respond to the questionnaire was not known. The questionnaire was then distributed based on the relevant managers available in that office only. Fraser and Henry (2007) undertook a study in five large UK organizations using the finance director, the audit committee chair, the head of internal audit and the director of risk management as respondents. They found that internal audit tends to play a major role in ERM, particularly in the embedding of risk. This survey involved respondents from Top, middle and lower management across Federal, State and Local government entities and staff.

Similarly, Olujide and Badmus (1998) conducted an empirical study of job satisfaction levels among bank managers in Nigeria and classified the respondents into one of three categories which include top management; middle management and lower management. The sample included a broad spectrum of managerial personnel from all hierarchical levels responsible for lending, operations, trusts, marketing, cashiers and auditors. The sample description focused on the manager's duties, that is, the respondents who were involved in the direct supervision of other employees or who were not of managerial rank but in charge of a technical area, for instance, auditing, or credit management.

Additionally, a study by Okioga (2013)to establish the effects of effective implementation of financial sector regulation on the financial market performance in Kenya also used respondents that were stratified into top, middle and lower management. The population was divided into the departments contained therein. The departments included; the Human Resource Management Department, Finance and Administration Department, and credit Management Department.

Likewise, Rawashdeh (2014) carried out a study on TQM as a source of bank performance and competitive advantage in Jordanian banking sector using branch managers, operation managers, and quality managers as respondents. The respondents were considered to have the best knowledge about the operation and quality management in bank. The population of the study consisted of 16 Jordanian banks with 224 bank branches which were surveyed in the capital Amman. The questionnaires were submitted directly by researcher to the bank respondents.

While this arrangement might not be ideal, this rather subjective procedure was considered necessary because job titles and responsibilities which were considered to be a fair reflection of organisational positions. This study used these three categories of respondents which include board members, top management, including CRO and CAE, risk management managers, internal auditors and lower management from different departments within the banks as respondents. This is to ensure that the real operators of the ERM system provide credible evidence on the practical implementation of ERM at all levels of the bank's operations to minimise bias. Similarly, the respondents were also clustered into risk management, internal audit and operational departments (Gay & Diehl, 1992; Hair, Black, Money, Samuel,& Page, 2007). This is to ensure that all the groups in the sample are adequately represented instead of individuals to cater for the large and widely spread population.

Applying the rule of thumb as per the table for determining sample size from a given population by Krejcie and Morgan (1970)(see Appendix 10); the minimum sample size for this study is 361 based on the actual population of 5634. Nevertheless, due to low response rate, the sample size has been doubled to 722.

This is in line with Hair *et al.* (2008) who suggest that a sample size can be increased to take care of low response rate and non-response bias. Therefore, the questionnaire was distributed among 722 respondents which are adequate based on the suggestion by Schwarz and Sudman (2012) and Tabachnick and Fidell (2007) who proposed a sample between 400 and 1000 respondents to a survey.

The influence of size on ERM implementation is backed by various studies. Examples include (Gartzert & Martin, 2012; Hoyt & Liebenberg, 2008; Klefnner *et al.*, 2003; Pagach &Warr, 2011) who in their separate studies find a significant positive relationship between firm size and ERM implementation. Nevertheless, this study measured the stage of ERM implementation by ERM complete in place or ERM partial in place. This was based on the input from the pilot test and the suggestions of the experts and focus group that validated the instruments for data collection.

The percentage distribution of the questionnaire to the commercial banks is based on the size and complexity of operations measured by number of branches. However, the exact population of the bank staff classified according to branches or banks was not made available due to confidentiality and security reasons. Majority of them are the actual operational managers at the branch levels as well as the head offices who were used as the respondents to receive first-hand information from the field on the ERM process activities. Although prior studies used five stages of measurement of a categorical, ordinal outcome variable, this study employed only two stages, to measure a dichotomous dependent variable. The analysis of the stage of ERM implementation is either ERM complete in place (1) or ERM partial in place (0) because it is required for all the commercial banks in Nigeria to implement ERM. The study further used the actual board members, top management, including CRO and CAE, risk management managers, internal auditors and operational staff from different departments within the banks as respondents. This is to ensure that the real operators of the ERM system provide credible evidence on the practical implementation of ERM at all levels of the bank's operations to minimise bias. This is another distinguishing factor of the present study from the other previous studies. Majority of them are the actual operational managers at the branch levels as well as the head offices who were used as the respondents to receive first-hand information from the field on the ERM process activities.

To ensure proper distribution of the questionnaires among the respondents comprising of top, middle and lower management working in the commercial banks located in the eight cities across the six Geo-political Zones of Nigeria, a quota sampling technique was used to select the respondents because the actual population of the bank staff was not available. Such information was not made available due to security and confidential reasons. Sekaran and Bougie (2010) defined quota sampling as "a form of proportionate stratified sampling, in which a predetermined proportion of people are sampled from different groups, but on a convenience basis" (p. 278).

The justification for using a quota sampling technique includes three main reasons. The total number of staff of the commercial banks in the eight cities and the head offices could not be ascertained. Furthermore, given the large population of 5634, quota sampling technique ensures that sampling error is minimized (Cooper & Schindler, 2009; Wilson, 2010). Secondly, quota sampling technique ensures homogeneity within a group (i.e. top, middle and lower managers of the commercial banks) and heterogeneity across groups (i.e. different banks with different structures and departments) (Cooper & Schindler, 2009; Punch, 2005). Thirdly, quota sampling technique was further used because of the resource limitations of the researcher with respect to time and money (Hair *et al.*, 2007; Saunders *et al.*, 2009; Sekaran & Bougie, 2010; Zikmund *et al.*, 2009) as well as the inaccessibility of a practical sampling frame (Cooper & Schindler, 2009).

The application of quota sampling technique involves a sequence of steps. First of all, the population has to be defined. As noted earlier, the population is 5634 (see Table 4.1). The next step is to identify the stratum. The logical stratum in this study is the six Geo-political Zones of Nigeria. Eight cities (Abuja, Bauchi, Enugu, Kaduna, Kano, Lagos, Jos and Portharcourt) located in the six Geopolitical Zones (Federal Capital of Nigeria, North East, South East, North West, North Central, South West and South South; see Appendix L for Nigerian Map) of Nigeria.

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The eight cities selected for the study were chosen based on the size and nature of the cities. The largest city in each of the Geo-political Zone was selected because they have the highest concentration of banks and bank branches. For example, 20 banks out of the 21 banks have their head offices located in Lagos, former capital city of Nigeria and currently the largest commercial city in the country. On the other hand, Abuja is the present capital of Nigeria and one of the banks has its head office there with high number of bank branches. Similarly, Kano is the largest commercial city in the Northern Nigeria which comprises of nineteen states. It has the largest concentration of bank branches after Lagos.

Other cities such as Enugu, Jos, Kaduna and Portharcourt are the respective headquarters of the Geo-political Zones and are big cities with a lot of bank branches while Bauchi was chosen to represent the North East Geo-political Zone because of the Boko Haram (Terrorism) activities in Maiduguri which is the headquarter. However, it is the state capital of Bauchi state within the North East Geo-political Zone but safer than all the other cities within the zone. Therefore, size, complexity, commercial activities and political strategic position of the cities were considered in their selection for the study.

Next is to determine an average number of 2283 population (Table 4.3) elements per strata by dividing the population size (i.e., 2283) by some levels (8 strata or cities). This yielded 285.38 elements per strata. Next is to determine the percentage of participants drawn from each stratum and determine the percentage (i.e. 722 divided by 2283, and then multiply by 100 percent = 31.63 percent). The final step is to determine the number of subjects in a sample by multiplying the total number of each element in the population in determining the percentage (i.e. 31.63 percent.) For example, the total number of respondents in Abuja is 270 and this number is multiplied by 31.63 percent to arrive at the number of subjects in the sample (i.e. 270 x 31.63 percent = 85) and so on as shown in Table 4.3

The respondents included the chief risk officer (CRO) and other senior staff of the risk management department (unit) or credit officers where there is no CRO or risk management department or unit. Others are the internal auditors including the chief audit executive (CAE) or compliance officers of the selected branches, and headquarters and staff of other operational departments in both branches and the

headquarters of the banks. As a result, the study further applied judgmental sampling of nonprobability technique to take the potential respondents from the strata. These consist of the risk management department/unit and the internal audit unit/department based on their experience and expertise in risk management and knowledge of the bank's operations. The distribution of the questionnaire among the eight cities have been computed and reflected in Table 4.3.

Table 4.3

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S/No.	Geo-Political	Nigerian	Total Bank	Questionnaire
	Zone	Cities	Branches	Distribution (Approx.
				31.63% of the Total
				Bank Branches in every
				City)
1	Federal Capital of	Abuja	270	85
	Nigeria			
2	North East	Bauchi	56	17
3	South East	Enugu	91	29
4	North Central	Jos	65	21
5	North West	Kaduna	133	42
6	North West	Kano	148	talavsia 47
7	South West	Lagos	1287	407
8	South South	Port Harcourt	233	74
	Total		2283	722

Source: CBN (2012)

4.4 Research Instruments

4.4.1 Survey Questionnaire

Maani and Cavana (2000) define questionnaire as "a pre-formulated written set of questions to which respondents record their answer, usually within closely defined alternatives". The questionnaire is also defined as a set of structured questions designed to collect data required for research, particularly information from the targeted respondents (Fowler, 2013). Collecting data using the questionnaire help reduce cost and time because it allows the respondents to complete it at their own

convenient time without undue interferences from the researcher (Adomi & Nakpodia, 2007). The questionnaire designed for this study examined the current state of ERM practices and determined the stage of ERM implementation in the Nigerian banks, and further identified the antecedents of ERM implementation and investigated the moderating effect of board characteristics on the antecedents and the stage of ERM implementation in the Nigerian banks.

The questionnaire is divided into two sections. Section one is further divided into four parts. Part one examined the current state of ERM practices. Part two determined the stage of ERM implementation in the Nigerian banking sector. Part three involved the identification of the antecedents of ERM implementation in the Nigerian banks and their influences on the level of ERM practices. Part four investigated the moderating effect of board characteristics on the antecedents and the stage of ERM implementation. Finally, section two is related to the background profile of the respondents, and the descriptive characteristics of the banks (see Appendix A). The questionnaire development with the number of items for measurement and the sources are reflected in Appendix B.

4.4.2 Measurement of Variables

Hair *et al.*(2015) defines measurement as "a tool with a predetermined number of close-ended responses that can be used to obtain an answer to the question" (p.68). There are four cases of measurement scale commonly used in social science research, with each one symbolizing a different point of measurement. They include nominal, ordinal, interval and ratio (Bambale, Shamsudin,& Subramanian, 2013; Creswell, 2012; Hair, Black, Babin,& Anderson, 2013; Sekaran 2014; Zikmund *et al.*, 2012).
The level of measurement scale signifies a hierarchy of precision in which a variable might be used (Coakes, 2013). It enables the researcher to assign questions to certain categories or groups (Pallant, 2013; Sekaran & Bougie, 2012).

For this study, the information from the questionnaire is nominal, ordinal and interval scale. The dependent variable is a nominal scale measured by ERM complete in place or ERM partial in place. It is a dummy variable with a value of 1 or 0. Similarly, some of the demographic factors are also on a nominal scale while others are ordinal scale. Consequently, the information for all the independent variables was assessed by five-point Likert scale. From strongly disagreed to strongly agree (see Appendix A for the questionnaire). This scale was developed since 1932 by Rensins Likert, which initially offered a five-point option that begins with a weak response to a high positive response. The five-point Likert scale is to measure value of items in every constituent, and the respondents are simply needed to tick in the appropriate corners. Table 4.4 presents the details of different scales used in this study and the coding of the variables.

Table 4.4

Descriptive Analysis of the Measurement Sco	ıle
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Construct	Coding	Type of Scale
Stage of ERM implementation	SERM	Nominal
Internal audit effectiveness	IAE	Interval
Regulatory Influence support	RIS	Interval
Human resource management	HRC	Interval
Top management commitment	TMC	Interval
Board characteristics	BCS	Interval
Bank size	Bank size	Ordinal
Bank age	Bank age	Ordinal
Presence of chief risk officer	CRO	Nominal
Type of auditor	Auditor type	Nominal
NSE, Listing	NSE listing	Nominal
Complexity of the bank	Bank complexity	Ordinal
Current ERM efforts	CFR	Interval
Development of ERM framework	DEF	Interval
Motivation for ERM adoption	MEA	Interval
Areas of risk that gives potential threats to the bank	APT	Interval
Gender		Nominal
Age		Ordinal
Category of staff		Ordinal
Department	tara Malaysi	Nominal
Designation/Rank		Ordinal
Years of experience		Ordinal
Qualification		Ordinal
Membership of Professional Body		Nominal
Type of Professional body		Nominal

4.4.3 Stage of Enterprise Risk Management Implementation

Several studies (Beasley *et al.*, 2005; 2010; Hoyt & Liebenberg, 2011; Paape & Spekle, 2011) used different measurement for the implementation of ERM. For Example, Beasley *et al.* (2005) viewed stage of ERM implementation as an ordinal variable and therefore, measured it by a value ranging from 1 to 5 as follows;

ERM stage = 1, if complete ERM is in place;

ERM stage = 2, if partial ERM is in place;

ERM stage = 3, if planning to implement ERM;

ERM stage = 4, if investigating ERM, but no decision made yet;

ERM stage = 5 if no plans exist to implement ERM

On the other hand, Hoyt and Liebenberg (2011) measured the extent of ERM implementation as a dummy/ dichotomous variable where ERM implementation, indicate whether an insurer engaged in ERM in any given year during the period 1998–2005. Therefore, a firm that adopts ERM in 2004 is assigned ERM = 1 for firm-years 2004 and 2005 and ERM = 0 for firm-years 1998–2003. Similarly, Liebenberg and Hoyt (2003) measured ERM implementation by a proxy of the appointment of Chief risk officer (CRO). Chief risk officer is a dummy variable = 1 if firm announced the appointment of a CRO and if is CRO is not appointed=0.Similarly, Daud *et al.* (2011) measured the level of ERM adoption by complete ERM in place and partial ERM in place while examining the level of ERM adoption within the Public Listed Companies (PLCs) in Malaysia and the influence of CROs on ERM practices.

With reference to the above, and based on the previous literature, this study adopted the measurement by (Beasley *et al.*, 2005; Hoyt & Liebenberg, 2011) to assess the stage of ERM implementation in the Nigerian banking sector. However, due to the advice of the nine Member panel on the validation of the questionnaire from some bank branches in Yola, Adamawa state capital, the level of ERM adoption was made into two namely: complete ERM in place and partial ERM in place on the basis that it was compulsory for all commercial banks in Nigeria to implement ERM. This was line with the study of Hoyt and Liebenberg (2011).

The stage of ERM implementation was measured as a dummy variable whereby ERM complete in place is 1 and ERM partial in place is 0. This measurement was adopted from literature (Hoyt & Liebenberg, 2011; Daud *et al.*, 2011) and moreso the banks had no right to refuse adoption since it was a mandate by the Central Bank of Nigeria (CBN). Building on previous studies, five antecedents have been named that are associated with the stage of ERM implementation. Which are: (1) regulatory influence; (2) internal audit effectiveness; (3) human resource competency; (4) top management commitment and (5) board characteristics as a moderating variable.

4.4.4 Antecedents of Stage of Enterprise Risk Management Implementation

Established along the extant literature, five antecedents have been identified in this study and are discussed below. All the five variables were measured on five point Likert scale ranging from strongly disagrees to strongly agree. Thus; (1) Strongly disagree; (2) Disagree; (3) Indifferent; (4) Agree; (5) Strongly agree.

4.4.4.1 Regulatory Influence

Regulatory influence is measured by five point Likert scale with the following items.

- The bank focuses on compliance with Nigerian codes (CBN & SEC) of corporate governance.
- The bank focuses on consistent compliance with the procedures and policies of the bank.
- 3. The bank focuses on compliance with stock exchange listing requirements.
- 4. The bank focuses on compliance with government rules and regulations.

- 5. The bank focuses on compliance with Basel 11 accord.
- 6. The bank focuses on compliance with risk management standards and guidelines.

The items were adapted from these studies (Desender, 2007; Liebenberg & Hoyt, 2008; Paape & Spekle, 2011).

4.4.4.2 Internal Audit Effectiveness

Internal audit effectiveness is measured on a five point Likert scale with the following items;

- 1. Internal audit Scope of work covers bank capital and liquidity management.
- 2. The bank recognizes and promotes standards of proficiency, technical competence and personal moral integrity among the internal audit.
- 3. Internal audit educational background is relevant to banking operations.
- 4. Internal audit have sufficient knowledge of banking operations.
- 5. Internal audit knowledge of internal auditing standards.
- 6. Availability of audit manual in the bank.
- 7. Top management implements internal audit recommendation.

The items for measurement were adapted from these studies (Al-Twaijry *et al.*, 2004; Badara & saidin, 2014; Beasley *et al.*, 2006; Cohen & Sayag, 2010; Fadzil*et al.*, 2005; Mihret & Yismaw, 2007).

4.4.4.3 Human resource competency

The human resource competency was measured by the following items on a five point Likert scale;

1. Bank focuses on education and training to enhance staff capability.

- 2. Bank provides infrastructure such as equipment and facilities to enhance staff performance.
- 3. Bank focuses on creating knowledge of risk management through risk awareness culture.
- 4. Bank applies skills, knowledge and experience to enhance competitive advantage.
- 5. Bank has devised a credible reward system and recognizes employees and managers for their high performance and goal achievements to support apacity development.
- 6. Bank promotes staff proficiency level through professional qualification and certification.
- 7. Bank provides full time educational studies in risk.

The items for measurement were adapted from these studies (Al-Twaijry *et al.*, 2004; Colquit, Hoyt, &Lee., 1999; Yaraghi & Langhe, 2011).

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4.4.4.4 Top Management commitment

The following items were used to measure top management commitment on a five point Likert scale;

- Top management assumes the responsibility of initiating and maintainingERM goals and cultural awareness.
- Top management vision, mission and commitment to ERM implementation is continually communicated to all employees.
- Top management is accountable for ERM implementation and is involved in reviewing progress report towards ERM processes.

- 4. Top management develops policies and guidelines for risk management implementation.
- 5. Top management makes risk management a top priority and spends a significant proportion of time on ERM issues.
- Necessary policy changes have been made to encourage employee's participation and involvement in ERM process and involvement in the ERM process.
- Top management has sufficient skills, knowledge and experience in ERM process and decision making.
- 8. Top management encourages employee's competency development by providing needed funds for training and education on the ERM essential technique.
- 9. Top management is committed to ERM process through the implementation of internal audit recommendation.
- 10. Top management promotes risk optimization and exploits opportunities to enhance competitive advantage.

The items for measurement were adapted from these studies (Manab & Kassim, 2012; Ren, Chandrasekar,& Bin Li, 2012; Yaraghi & Langhe, 2011; Walker *et al.*, 2002).

4.4.4. 5 Moderating Effect of Board Characteristics on the Relationship between the Antecedents and the Stage of ERM Implementation

The board characteristic which is the moderating variable wasmeasured by the following items on a five point Likert scale;

- 1. Larger boards with diverse background have knowledge and are more experienced.
- 2. Internal and external directors have the skills and expertise to support ERM implementation.

- 3. Frequency of board meetings supports ERM implementation
- 4. The presence of risk management committee support ERM implementation.
- 5. Higher percentage of independent board directors supports ERM implementation.
- 6. The board directors with equity ownership are more committed to ERM implementation.
- 7. The higher percentage of women board directors support ERM implementation.
- 8. The board directors with educational background are committed to ERM implementation.

The items for measurement were adapted from these studies (Adams & Ferreira, 2009; Beasley, 1996; Desender, (2007; Ren *et al.*, 2012; Yazid& Daud, 2011).

4.4.4.6 Auditor type

Auditor type was measured using nominal scale, 1 or 0. BIG4 = 1 if a Big 4 auditor, else 0 (Beasley *et al.*, 2005; Paape & Spekle, 2011).

4.4.4.7. Bank Size

Bank size was measured on ordinal scaleby natural logarithm of average total assets as at 2012 (Gordon *et al.*, 2009; Paape & Spekle, 2011).

4.4.4.8 Bank Complexity

Bank complexity was determined on ordinal scale by the number of branches as at 2012 (Gordon *et al.*, 2009).

4.4.4.9 CRO existence

CRO was measured by nominal scale; 1 if bank has a CRO, else 0 (Beasley *et al.*, 2005; Liebenberg & Hoyt, 2003).

4.4.4.10 NSE Listing

Nigerian Stock Exchange listing was measured by nominal scale; if bank is listed by NSE 1, otherwise 0 (Paape & Spekle, 2011; Kleffner *et al.*, 2003).

4.5 Validity of the Research Instruments

4.5.1 Pilot Test

Pilot test is defined as a small scale preliminary research undertaken with the objective of evaluating cost, feasibility and time as well as predicting the appropriate sample size for the full study in order to ensure improvement in the research design prior to the execution of the actual research (Hertzog, 2008;Van Teijlingen, Rennie, Hundley, & Graham, 2001). A pilot study is a process which assists the researcher to review the instruments and make necessary changes based on the feedback received from a small number of respondents who completed and evaluated the tools for the research (Creswell, 2012; Selamat & Babatunde, 2014).

Roscoe (1975) suggests, "sample sizes larger than 30 and less than 500 as suitable for most of the research" (p.23) as a rule of thumb for deciding the sample size. On the other hand, Malhotra (2008) suggests that a sample size of 30 to 50 respondents for the pilot study is adequate subject to substantial variation depending on the peculiarities of the study. Based on the foregoing and in view of the fact that the respondents have been stratified into top, middle and lower management, which consist of internal audit, risk management and operational departments/ units at the respective headquarters and branches, the sample size required for the pilot test to cover all the branches of the banks in the two state capitals have been doubled to determine the response rate /nonresponse rate. This was based on the previous studies by Osuagwu (2001) who suggests that the response rate in social science research in Nigeria ranges between 30 percent to 50 percent and even lower in the banking sector due to their tight schedule and restriction on information disclosure.

For the pilot test, 120 questionnaires were distributed among the respondents in thirty branches of the respective commercial banks in Yola and Jalingo, Adamawa and Taraba state capitals of Nigeria (17 branches in Yola while13 branches in Jalingo). The two states were not part of the eight states considered for the actual study. The distribution was based on stratified sampling of the respondents comprising of top, middle and lower management staff of the respective banks.

The respondents comprising of top, middle and lower management focused on the internal auditor, risk management manager, and the operational manager at the branch levels of the banks while the top level is the main focus at the head offices. However, there was no risk management manager at most of the branches. Instead, some banks had an internal control officer while others had credit control/ risk officer. These categories of staff were therefore accepted as the respondents in all the branches since the banks were homogenous with similar operational structure.

Fraser and Henry (2007) undertook a study in five large UK organizations using the finance director, the audit committee chair, the head of internal audit and the director of risk management as respondents. They found that internal audit tends to play a major role in ERM, particularly in the embedding of risk. This survey involved respondents from top, middle and lower management across Federal, State and Local government entities and staff.

Similarly, Olujide and Badmus (1998) conducted an empirical study of job satisfaction levels among bank managers in Nigeria and classified the respondents into one of three categories which include top management; middle management and lower management. The sample included a broad spectrum of managerial personnel from all hierarchical levels responsible for lending, operations, trusts, marketing, cashiers and auditors.

A study by Okioga (2013)to establish the effects of effective implementation of financial sector regulation on the financial market performance in Kenya also used respondents that were stratified into top, middle and lower management. The population was divided into the departments contained therein. The departments included; the Human Resource Management Department, Finance and Administration Department, and credit Management Department.

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Likewise, Rawashdeh (2014) carried out a study on TQM as a source of bank performance and competitive advantage in Jordanian banking sector using branch managers, operation managers, and quality managers as respondents. The respondents were considered to have the best knowledge about the operation and quality management in bank. The population of the study consisted of 16 Jordanian banks with 224 bank branches which were surveyed in the capital Amman. The questionnaires were submitted directly by researcher to the bank respondents. While this arrangement might not be ideal, this rather subjective procedure was considered necessary because job titles alone were not found to be accurate reflection of organisational positions.

169

Out of the 120 questionnaires sent for the pilot test, 83 were returned within three weeks, representing 69 percent, but 10 of the returned questionnaires were rejected as a result of incomplete or improper filling. An attempt was made to know the reason for the incomplete or improper filling but some of the respondents alleged that they were very busy with work while others stated that there was interference from the customers while they were filling the questionnaire. However, serious effort to get the respondents to properly fill the incomplete portion proved abortive as they all claimed to be too busy. Therefore, the usable questionnaires were 73 which represent61 percent. The sample size was adequate for the pilot test. However, some banks out rightly rejected the questionnaire while others politely advised that the branch office can only receive a questionnaire through their head office. The justification for the substantial increase in the sample size is to avoid low or nonresponse rate.



Table 4.5

Factor loading, Kmo, Eigenvalue and variance

S/No.	Variable	Items	Loading	КМО	Eigen	Variance
					Value	
1	Internal Audit Effectiveness	IAE1	0.775	0.809	4.526	52.625
	Internal Audit Effectiveness	IAE2	0.763			
	Internal Audit Effectiveness	IAE3	0.753			
	Internal Audit Effectiveness	IAE4	0.717			
	Internal Audit Effectiveness	IAE5	0.814			
	Internal Audit Effectiveness	IAE6	0.833			
	Internal Audit Effectiveness	IAE7	0.683			
	Internal Audit Effectiveness	IAE8	0.793			
2	Human Resource Competency	HRC1	0.769	0.823	3.546	59.930
	Human Resource Competency	HRC2	0.743			
	Human Resource Competency	HRC3	0.812			
	Human Resource Competency	HRC4	0.814			
	Human Resource Competency	HRC5	0.753			
	Human Resource Competency	HRC6	0.751			
	Human Resource Competency	HRC7	0.771			
3	Regularity influence Support	RIS1	0.859	0.863	4.316	71.928
	Regularity influence Support	RIS2	0.882			
	Regularity influence Support	RIS3	0.763			
	Regularity influence Support	RIS4	0.886			
	Regularity influence Support	RIS5	0.852			
	Regularity influence Support	RIS6	0.840			
4	Top management Commitment	TMC1	0.808	0.922	5.675	63.051
	Top management Commitment	TMC2	0.790			
	Top management Commitment	TMC3	0.850	lavsia		
	Top management Commitment	TMC4	0.883	laysia		
	Top management Commitment	TMC5	0.782			
	Top management Commitment	TMC6	0.704			
	Top management Commitment	TMC7	0.854			
	Top management Commitment	TMC8	0.724			
	Top management Commitment	TMC9	0.811			
	Top management Commitment	TMC10	0.787			
5	Board Characteristics Support	BCS1	0.740	0.773	3.06	51.020
	Board Characteristics Support	BCS2	0.689			
	Board Characteristics Support	BCS3	0.736			
	Board Characteristics Support	BCS4	0.766			
	Board Characteristics Support	BCS5	0.731			
	Board Characteristics Support	BCS6	0.662			
	Board Characteristics Support	BCS7	0.617			
	Board Characteristics Support	BCS8	0.613			

From Table 4.5, it is clear that all measures have attained the acceptable level forfurther multivariate analysis in view of the factor loading, KMO, eigenvalues and variances of the variables. Revisions and adjustments were made in line with the

suggestions received from the feedback. The detail result of the pre-test is shown in table 4.5.

4.5.2 Expert Review

Validity refers to a study that accurately reflects the real meaning of the concept (Babbie, 1990). Validity measures what the researcher wants to measure or how truthful the research results are (Joppe, 2000). There are two types of validity that is internal and external validity. Internal validity means the ability to measure what it attempts to measure or the design of the study. While external validity refers to the capacity of the research findings to be generalized (Fadzly & Ahmad, 2004). Construct Validity is classified into face validity, content validity, predictive validity, concurrent validity, convergent validity, discriminant validity. However, face and content validity are classified as translation validity while criterion-related validity includes predictive validity, concurrent validity, convergent validity and discriminant validity (Hair *et al.*, 2007; Sekaran & Bougie, 2010). Both face and content validity are employed in this study due to the limitation of dependent variable which is dichotomous variable.

Face validity is the extent to which a test is subjectively viewed as covering the concept it purports to measure. It essentially refers to the transparency or relevance of a test as it appears to test participants (Hair *et al.*, 2007). In other words, a test can be said to have face validity if it "looks like" it is going to measure what it is supposed to measure. On the other hand, content validity refers to whether the measurement is sufficient to cover the range of meaning of the variables. Specifically, content validity means that the items measure exactly what they are supposed to measure while

reliability refers to the degree to which the items in the questionnaire consistently come up with the same measurement or output (De Vaus, 2011).

Content validity is different from face validity, because face validity refers not to what the test actually measures, but to what it superficially appears to measure. Face validity assesses whether the test "looks valid" to the examinees who take it. However, prior studies describe content validity as an approach in which a small number of possible respondents or panel of experts is involved in order to obtain their expert opinion on items, wordings or phrase reflected in a survey questionnaire (Hair *et al.*, 2007; Sekaran & Bougie, 2010).

The researcher submitted the questionnaire to some experts both practitioners and academicians who are specialists in the subject matter in terms of content analysis for validation to enhance the quality of the questionnaire (see appendix M for details). It is crucial to ensure that the sample could be used to fulfil the primary objectives of the research. To this end, a group of nine managers from the various branches of the commercial banks in Yola, the Adamawa state capital went through the questionnaire and made some inputs which were incorporated in the questionnaire.

The content validity of the instrument was tested before embarking on the pilot test. The instruments were pre-tested with six academics and four practitioners. The professionals include; CROs of CBN and three top banks in Nigeria while scholars caught across US, Germany, Malaysia and Nigeria as shown in Table 4.6 and Appendix M. The researcher ensured that the suggestions/comments received from the reviewers and the respondents were taken into consideration, and necessary review and adjustments were made before embarking on the distribution of the questionnaire for the actual study. Therefore, the researcher used the input from experts and focus group to effect some changes in the questionnaire before the distribution especially the measurement of the dependent variable. The profile details of the experts contacted are reflected Table 4.6.

Table 4.6

S/No.	Country/Organisation	Title/Status	Remarks/Comments		
1	Central bank of Nigeria CRO		Substantial questionnaire modification and		
	(CBN)		addition of some items including		
			demographic factors for the bank		
2	Top three commercial	CROs	Additions of some items such as; others,		
	banks in Nigeria		under department, professional		
			qualification and information security risk		
			as one of the areas of potential threats to		
			the bank		
	USA	Professor of	Go for pre-test of the questionnaire		
		Accounting			
	Germany	Professor of	The respondents seem to have dee		
		Accounting	knowledge of ERM		
	Malaysia	Prof Madya Dr	Conduct pre-test of the questionnaire and		
		(Finance)	make necessary adjustments as suggested		
	Nigeria	Professor of	Formatting and modification of some		
		Accounting	items		
		Two senior	Deletion of some items and classification		
		lecturers (PhD	of the respondents into top, middle and		
		Accounting)	lower management as well as separation of		
			professional qualification into two		
			categories.		

4.6 Data Gathering Procedure

4.6.1 Data Collection

This study used cross-sectional study design through field study. Prior study under cross-sectional design shows that data are collected for a particular study at a time so as to meet the objectives of the study (Cavana *et al.*, 2001). Therefore, this study adopted the use of cross-sectional design because of its uniqueness in avoiding long time consumption as in the case of longitudinal design (Sekaran & Bougie, 2010). Data collected in variety of ways, in different settings such as filed or laboratory and from different sources-primary and secondary (DeVaus, 2011; Sekaran & Bougie, 2010).

The main data collection technique used by this study is a questionnaire. According to Sekaran and Bougie (2010), and Creswell (2010), this data collection technique that involves asking individuals specific behavioural questions are commonly used in social science research. Previous studies show that the field study process allows the researcher to have personal contact with the respondents, and thus, the interaction enhances the administration of the questionnaire as well as solving any grey areas arising from the study and the research instruments (DeVaus, 2011; Sekaran & Bougie, 2010).

Many previous studies on ERM research used the survey as the method of data collection. Examples include; Beasley, 2005; Colquit *et al.*, 1999; Desender, 2007; Golshan & Rasid, 2012; Kleffner, *et al.*, 2003; Paape & Spekle ,2011; Razali & Tahir, 2011; Yazid, Razali & Hussin , 2012). This study adopted a questionnaire method to collect information from the respondents. It further employed self-

administered procedure called "drop-off and pick procedure" to administer the questionnaire to the respondents in the banks (Al-Khateeb & Dahalin, 2013; Sekaran, Robert & Brain, 2001).

Survey research was viewed as the most appropriate because it is a commonly applied method by researchers who collect data about a very large population that cannot be observed directly (Tanur, 1982). The target population of the study was individual top managers, middle level managers and lower managers of the Nigerian commercial banks. Therefore, the unit of analysis of this study was the individual. The importance of unit of analysis cannot be overemphasized because it helps the researcher to determine the sample, instruments and method of data collection. Sekaran and Bougie (2001) describe the unit of analysis as the level of aggregation of the data collected during the subsequent data analysis state. The unit of analysis can be individuals, dyads, groups, divisions, industries, organizations or countries (Maani, & Cavana, 2000; Sekaran, 2000).

The individuals have been taken as the unit of analysis of this study because the individuals are better informed on the activities of ERM in the banks. The respondents have been stratified into top, middle and lower management, which are from the internal audit, risk management and operational departments/ units at the respective headquarters and branches. These are the policy makers and operational managers of the banks with respect to ERM deployment, who perform daily routine of banking operations related to high risks and understand the various segments of activities of the banks.

This is to ensure that the real operators of the ERM system provide credible evidence on the practical implementation of ERM at all levels of the bank's operations to minimise bias. This is another distinguishing factor of the present study from the other previous studies. Majority of them are the actual operational managers at the branch levels as well as the head offices who were used as the respondents to receive firsthand information from the field on the ERM process activities. The top management in particular formulates the policy for the adoption of ERM system while the middle and lower management implement the policy by ensuring the integration and operation of the ERM process across the organisation and constantly evaluate the process.

The questionnaires were administered directly by the researcher with the assistance of some people (two unemployed graduates in each of the state under study = sixteen persons) who assisted in distributing and collecting the questionnaires at the headquarters and the branches of the respective banks by way of drop-off and pick procedure (Ismail, 2007; Sekaran & Bougie, 2010; 2015). Before the distribution, the researcher briefed the research assistants on their role and carried them around to visit the banks during the distribution of the questionnaire and introduced them to the respondents for the collection of the completed questionnaire. Should there be any problem that needs clarification; the research assistants contacted the researcher directly to explain or clarify the issue at stake.

The arrangement facilitated fast retrieval of completed questionnaire. The administration of the questionnaire to many people at the same time is less costly and consumes less time, unlike the interview approach or any other system

(Sekaran & Bougie, 2010). The procedure adopted in this research elicited high response rate. The questionnaires were administered in eight major cities (Abuja, Bauchi, Enugu, Jos, Kaduna, Kano, Lagos and Port Harcourt) across the six Geopolitical Zones of Nigeria for a period of four months, starting from September to December, 2014. The total number of branches and the distribution of questionnaire per each city are represented in the earlier section.

4.6.2 Nonresponse Bias

Armstrong and Overton (1977) suggest that nonresponse bias poses a serious concern, especially when dealing with surveys. Tse (1995) opines that nonresponse bias could threaten even the validity of research output. Based on previous literature, nonresponse bias is viewed as the mistake that a researcher could make in the process of estimating sample characteristics as a result of the under-representation of some respondents due to nonresponse (Bambale, 2013). As observed by Groves (2006), " there is no minimum response rate below which a survey estimate is necessarily biased and, conversely, no response rate above which is never biased" (p.16). By implication, this means that no matter how small the nonresponse is, there is the possibility of bias that needs to be investigated (Pearly &Fairley, 1985).

Therefore, there is a need to conduct the response bias for this study. For this study, respondents were divided into two independent samples based on their answers to questionnaire in relation to the five independent variables (regulatory influence, internal audit effectiveness, human resource competency, top management commitment and the board characteristics). Accordingly, the responses of those who responded to the questionnaires distributed between September to October 2014 are

considered early responses while those that were returned in November and December 2014 were considered late responses but there was no significant difference as none of the groupings is significant hence, no problem of nonresponse bias.

4.7 Methods of Data Analysis

In this section, the researcher used a combination of descriptive and inferential statistics for data analysis. Descriptive statistics according to Babbie *et al.* (1990) provide the method of reducing large data to a reasonable summary to provide simple way of understanding and interpreting it. SPSS software package was used for data screening and preliminary analysis while Stata software package was used for multivariate analysis which is consistent with previous studies (Daud *et al.*, 2011; Desender, 2007; Kleffner *et al.*, 2003; Onder & Ergin, 2012). Furthermore, to obtain a robust result, A Structural Equation Modeling (SEM) built in Stata was also applied to run the regression.

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4.7.1 Descriptive Statistical Analysis

Sekaran and Bourgie (2010) suggest that descriptive analysis is linked to the definition of the phenomena of interest as well its interpretation and presentation. The descriptive analysis describes the underlying characteristics of the respondents in the sample. Respond to specific research questions and checks all the variables to ensure that the assumptions of the techniques used in the study are not violated (Coakes, 2013; Pallant, 2010). The descriptive statistics provide a statistical analysis of the profile information of the respondents and the characteristics of the bank. The demographic profile is analysed in terms of frequency and percentages.

The descriptive statistics of all the variables in the Models with respect to minimum and maximum values, fair score, or standard of central tendency (mean and median) and the scope of variability (standard deviation) are calculated. It further provides a descriptive analysis of the current state of ERM practices in the Nigerian banks to provide more evidence to confirm the stage of ERM implementation. The descriptive statistics of this study are contained in the next chapter for data analysis.

The current focus of ERM efforts, the development of ERM framework, the motivation for ERM implementation and the areas of risk that present potential threat and become a top priority for the banks are reflected in the final research questionnaire in Appendix A. They have all been analysed through descriptive statistics with respect to mean, standard deviation, minimum and maximum. Similarly, descriptive statistics of the current state of ERM constructs and the stage of ERM implementation, the demographic statistics of the respondents and the banks have been analysed using simple percentages.

4.7.2 Correlation Analysis

Multicollinearity is created when any of the squared multiple correlations between variables are near or closed to 1 (Tabachnick& Fidell, 2007). Independent variables are said to be highly correlated among themselves when their value is at (0.9 or above) (Hair *et al.*, 2010). When there is multicollinearity problem among the independent variables, then there could be likely increase in the standard errors of the variables coefficient. This can make some independent variables statistically not significant. However, such independent variables could be significant in another way (Badara & Saidin, 2014). To detect multicollinearity and correlation problems in this

study, two methods were used (Chatterjee & Yilmaz, 1992; Peng & Lai, 2012). The first approach was to examine the correlation matrix of the variables. Pearson correlation was used. Therefore, multicollinearity cases can be detected and managed by deleting the affected variables.

The existence or non-existence of possible multicollinearity is confirmed further by diagnostic tests. The study used variance inflation factors (VIF) to test for multicollinearity. According to Hair (2010) VIF values above 5 (which correspond to tolerance value below 0.20) indicate a multicollinearity problem. The second approach involves the examination of the correlation matrix for the independent variables, the variance inflated factor (VIF) and the tolerance value were critically assessed to detect the multicollinearity problem. Multicollinearity is a concern if the VIF is greater than 5; the tolerance value is below 0.20 (Hair, Ringle and Sarstedt, 2011). The detail analysis of the correlation analysis is presented in the next chapter.

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4.7.3 Binary Logistic Regression Analysis

The term "Logistic regression" is drawn from the Logit transformation used with the outcome variable that is dichotomous (Hair *et al.*, 2010; Harrell, 2013). This study adopted Logit Model to provide further explanations of whether ERM is wholly or partially implemented in the Nigerian banking sector. The Logit Model can be used when the Model contains both continuous and dummy variables (Gliner, Morgan,& Leech, 2011). This is consistent with previous studies that used Logistic regression Model (Colquit *et al.*, 1999; Desender, 2007; Hoyt & Liebenberg, 2008; Kleffner *et al.*, 2003).

The Logistic regression technique is often used to find or estimate the numerical values of the parameters to fit functions to a set of data and to characterize the statistical properties of estimates when the dependent variable is a binary. It is used when the dependent variable is dichotomous which has the value of 1 or 0 (Abdi, 2003; Coakes, 2013; Pallant, 2013). However, the major drawback is that it treats the response and predictions variably asymmetrically. It also considers error from response variables. This treatment is not appropriate for some application. The Logistic Regression Model is a method of studying relations between variables whereby the relations are approximately by function (Harrell, 2013; Hosmer, Lemeshow, & Sturdivant 2013).

Logistic Regression Model formulates a best fitting equation by using the maximum likelihood method. The word "Likelihood" means "probability". It is known as probability under a null hypothesis. This method maximizes the probability of classifying the observed data into suitable groups that make the regression coefficients. The log likelihood is the foundation for tests of a Logistic Model. The likelihood ratio test is based on –2LL ratio. Just like the ordinary regression, Logistic regression provides a coefficient 'B', which tests, each independent variable's partial influence to deviations in the dependent variable. The aim of this is to predict appropriately the group of the outcome for individual cases by the application of the most parsimonious Model. To accomplish this, a Model (for example, an equation) is generated which includes all the independent variables that are suitable for predicting the outcome variable (MacKenzie & Peng, 2014).

The importance of Logistic Regression is classified into two:

In the first instance, Logistic regression predicts group membership. Subsequently, Logistic regression computes the probability of success of an event over the likelihood of failure, thus; the analysis produces the odds ratio. Secondly, Logistic regression also offers knowledge of the variety of existing relationships and strengths amongst the variables.

The assumption of Logistic Regression Model specifically includes the following:

(1) Logistic Regression does not carry on a linear relationship between the dependent and independent variables; (2) The dependent variable must be a dichotomy; (3) The independent variables need not to be an interval, nor normally distributed, nor linearly related, nor of equal variance within each group; (4) The categories (groups) must be mutually exclusive and exhaustive, a case can only be in one group and every case must be a member of one of the groups; (5) Larger samples are required than for linear regression because maximum likelihood coefficients are large sample estimates (Harrell, 2013; Hosmer *et al.*, 2013).

A lower limit of 10 cases per predictor variable is recommended (Leech, Barrett,& Morgan, 2005). There are two hypotheses of interest in Logistic regression: the null hypothesis, which is when all the coefficients in the regression equation take the value of zero, and the alternate hypothesis that the Model with predictors currently under investigation is accurate and differs significantly from the null of zero, this gives significantly better than the probability or random prediction level of the null hypothesis. Jaccard (2001) opine that Logit Model is a non-linear Model and the assumptions related to the distribution of independent variables such as linearity, normality and homoscedasticity are not required to be satisfied to execute the Models.

4.7.4 The Research Model

Binary Logistic Model has been employed in this study. This model is appropriate when the response takes one of only two possible values representing success and failure, or more generally the presence or absence of an attribute ofinterest. The Logistic regression Model estimate has been specified in line with the objectives of the study. Binary Logistic Model is used to capture the objectives which relates to two discrete choices. Thus, the binary logistic regression Models for this study are being stated to serve as a guide for analysing the result in order to achieve the various objectives of the study: The Models are divided into four to assess the impact of each model on the dependent variable in order to determine the degree of influence of the independent variables on the outcome variable either individually or collectively.

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Model 1 shows the regulatory influence which is the most rated variable by the majority of the respondents and the two newly introduced variables by the researcher (RIS, IAE & HRC) to assess their effect on the Model

Where:

SERM =	Stage of ERM implementation
RIS =	Regulatory influence support
IAE =	Internal audit effectiveness
HRM =	Human resource competency

Model 2 shows all the independent variables in the framework for the study to examine the effect of the antecedents on the Model.

Model

2:
$$ln\frac{serm}{(1-serm)} = \alpha_0 + \beta_1 RIS + \beta_2 IAE + \beta_3 HRC + \beta_4 TMC + \beta_5 BCS...(2)$$

Where:

SERM	[=	Stage of ERM implementation
RIS	=	Regulatory influence support
IAE	=	Internal audit effectiveness
HRC	=	Human resource competency
TMC	=	Top management commitment
BCS	=	Board characteristic support

Model 3 reflects all the independent variables in the framework and the control variables. This is to assess the effect of the antecedents and the control variables on the Model.

Model 3:

$ln \frac{SERM}{(1-SERM)}$:	$= \alpha_0 + \beta_0$	$\beta_1 RIS + \beta_2 IAE + \beta_3 HRC + \beta_4 TMC + \beta_5 BCS + \beta_6 SIZE +$
β ₇ AUDTYPE	$+ \beta_8 B c$	$COMP + \beta_9 NSE + \beta_{10} CRO$
(3)		
11/1		Universiti Utara Malaysia
where;		oniversiti otara Malaysia
SERM	=	Stage of ERM implementation
RIS	=	Regulatory influence support
IAE	=	Internal audit effectiveness
HRM	=	Human resource competency
TMC	=	Top management commitment
BCS	=	Board characteristic support
BSIZE	=	Bank size
AUDTYPE	=	Type of auditor
BCOMP	=	Bank complexity
NSE	=	NSE listing
CRO	=	Chief risk officer

Model 4 reflects the moderating effect of the board characteristics on the antecedents

and the depended variable to achieve objective four.

$$\frac{SERM}{(1-SERM)} = \alpha_0 + \beta_1 RIS + \beta_2 IAE + \beta_3 HRC + \beta_4 TMC + \beta_5 BCS + \beta_6 SIZE + \beta_7 AUDTYPE + \beta_8 BASSETS + \beta_9 NSE + \beta_{10} CRO + \beta_{11} BCS * RIS + \beta_{12} BCS * IAE + \beta_{13} BCS * HRC + \beta_{14} BCS * TMC + \beta_{15} BCS * \beta_{16} SIZE + \beta_{17} BCS * \beta_{18} AUDTYPE + \beta_{19} BCS * \beta_{20} BCOMP + \beta_{21} BCS * \beta_{22} NSE + \beta_{23} BCS * \beta_{24} CRO \dots (4).$$

4.7.5 Logistic Regression Model

Leech, Barrett and Morgan (2015) suggest the application of Logit Model if it contains both continuous and dichotomous variables. Alternatively, the Model provides a categorical dependent variable. In this case, the stage of ERM implementation is the dependent variable, which is a dummy variable that takes the value of 1 or 0. If ERM complete in place is 1, if otherwise, 0 or, ERM partial in place is 0. However, all the independent variables including the moderating variable are continuous on a 5 point Likert scale ranging from strongly disagrees to strongly agree, except the demographic variables that are either nominal or ordinal.

For a good fit of the Model, O'Connell (2006) recommends that there must be an assurance that the actual conditional probabilities serve as a logistic function of the independent variables. This implies that the logit function is the right function to be used based on the dependent variable in the Model. Therefore, the dependent variable is the discrete choice restricted to 1 or 0 which means either ERM is fully implemented or partially implemented. Hence, the Logit Model is appropriate as the link function that connects the dependent variable with the independent variables.

It is important to understand the concepts of Logistic and Logit regression or Logit Model. The two concepts are applied to estimate Binary Logistic Models. However, the difference between the two lies in the types of reports that they produce. Logit reports coefficients while Logistic-reports, odds ratios. The odds ratios can be computed using the ratio, but the choice between the two depends on one's preference. On the whole, Logistic estimates are presented in terms of the Logit coefficients or odds ratio. Menard (2002) argued that odds ratios are more informative and predictive.

Menard (2000) identified differences between Logit commands in Stata and SPSS. However, the author opined that they are both competent in handling logistic Model. The author nevertheless, based the argument on the premise that Stata tend to be far faster than SPSS. Hosmer and Lemeshow (2005) also note that they differ in their commands, as Stata has various commands for executing Logistic regression while SPSS has some limitations in terms of chi-square computation. They also differ in their default output and in some other options that are available in each of them.

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This study used the two software packages (Stata & SPSS) for data analysis. SPSS was used for preliminary analysis while Stata was used for regression analysis to assess the effect of the antecedents on ERM implementation. The studyintroduced four Models to explain properly the framework in line with the previous studies (Liebenberg & Hoyt, 2003; Paape & Spekle, 2011). Model 1 reflects the most influential variable, and the new independent variables introduced by the researcher to the Model as a contribution. These include regulatory influence, internal audit effectiveness and human resource competency. This Model examined the impact of the regulatory influence of the dependent variable in conjunction with other independent variables.

Model 2 contains all the independent variables in the framework for which hypotheses have been formulated. These variables include the new and existing variables found in the literature. They include regulatory influence, internal audit effectiveness, human resource competency, top management commitment and board characteristics. Model 3 includes all the variables in the framework and the control variables introduced by the researcher. This is meant to assess the impact of the regulatory influence, internal audit effectiveness, and human resource competency in conjunction with other variables on the stage of ERM implementation.

These constructs have been employed in the literature (Colquitt *et al.*, 1999, Kleffner *et al.*, 2003, Manab & Kassim, 2012) and were measured as either a dummy variable or a 5 point Likert scale. The principal aim of Model three was to assess the impact of the antecedents and the control variables for the deployment of ERM in the Nigerian banks. Thus, answering question three, this meant achieving an objective three. Model 4 contained all the variables in the framework and the interaction terms of board characteristics including the control variables. The aim of the Model is to evaluate the moderating effect of board characteristics on the antecedents and control variables, and the stage of ERM implementation in the Nigerian banking sector. This will answer research question four of the study.

Still, there is demand to assess the goodness of fit of the Model and ensured that it is correctly defined for further multivariate analysis. Given that all the required assumptions are met, the Logit Model presents a Model for the probability of an event in which the predicted probabilities are constrained to lie between 0 and 1. This probability of an event does not relate to set of predictors in a linear function as obtained in OLS (Lottes, Adler,& Demaris, 1996).

4.7.6 Odds Ratio for Decision to Implement ERM Complete or Partial

Tabachnick and Fidell (2007) and Pallant (2011) indicate that the odds ratio denotes 'the change in the odds of being in one of the classes of outcome when the value of a predictor increases by single unit'. The concepts of Logistic regression and Logit regression or logit Model needs to be understood clearly to avoid mix-up. Both concepts are applied to estimate Binary Logistic Regression Models. However, there is a dispute between the two based on the type of reports that are generated. Logit Model reports coefficients, while logistic-reports, odds ratios.

Still, the odds ratios can be calculated using the coefficient, but this depend on one's choice and preference. On the whole, Logistic estimates are given in terms of the Logit coefficients or logistic odds ratio. However, Menard (2002) argued that odds ratios are more instructive. Therefore, besides getting the coefficients of the variables, it is necessary to obtain the odds ratio because it gives the percentage change in the dependent variable as a result of one unit change in the independent variable holding other variables constant.

On the other hand, coefficients only estimate the statistical significance of the independent variable in relation to the dependent variable in terms of p-value. This does not provide the degree of change or give further information about the variation in the dependent variable as a result of a unit change in the independent variable. The odds ratio indicates how many times the likelihood of occurrence relative to the non -

occurrence will increase or decrease when the explanatory variable changes by one unit. Therefore, Logistic regression analysis demonstrates how the odds change when a particular explanatory variable change. Odds are the ratio of probability of an event occurring to the probability of the event not occurring (Gujarati, 2004). An odds ratio greater than 1 corresponds to a positive logit coefficient while the odds ratio of less than 1 corresponds to a negative logit coefficient.

4.8 Conclusion

This chapter specifically split out the approaches and methodology for achieving the research objectives. The chapter discussed the research design and the diverse approaches to reach the research aims, including the population, the sampling frame, and proficiency in data analysis. Furthermore, the section presented questionnaire development and administration, and the measurement Models. Similarly, methods of data collection and analysis were also spotlighted. Additionally, reliability and validity tests were reflected in the content and face validity, and that includes the result of the pilot test that provided significant result for further multivariate analysis. The subsequent chapters cover the data analysis and findings.

CHAPTER FIVE ANALYSIS AND FINDINGS

5.1 Introduction

The previous chapter provides discussion on the research design, comprising of the population, sample size, method of data collection and the technique for data analysis. This chapter presents the empirical results of data analysis and findings using logistic regression Model. The first section presents the response rate which covered the nonresponse bias. Descriptive statistics is discussed in the next section as well as the data screening and preliminary analysis. This is followed by the section that examined the current state of ERM practices and the stage of ERM implementation in the Nigerian banks. The next section presents the logistic regression Model including the various tests of the goodness of fit of the Model and Model specification. This is closely followed by the section that contained the results and findings with respect to all the variables in the Models including the moderating variable. The last section concludes the chapter.

5.2 Response Rate

The study focused on one particular industry, that is to maximize comparability between firms in terms of business environment, a degree of competition and risk exposures (Hoyt & Liebenberg, 2011). This study used cross sectional approach to distribute 722 questionnaires to management staff of 21 commercial (MDBS) banks in 361 branches across eight cities (Abuja, Bauchi, Enugu, Jos, Kaduna, Kano, Lagos and Port Harcourt,), and the respective headquarters of the banks spread across the six Geopolitical Zones in Nigeria. Table 5.1 present the spread of the six cities in the Geo-political Zones of the country and the distribution of questionnaire (see Appendix L for the map of Nigeria showing the spread of the cities).

S/No	Cas Political Zona	Nigorian City	Number of
5/190.	Geo-rontical Zone	Nigeriali City	Respondents
7	Federal Capital of Nigeria	Abuja***	85
2	North East	Bauchi*	17
4	South East H		29
1	North Central	Jos [*]	21
3	North West	Kaduna	42
4	North West	Kano**	47
6	South West	Lagos**	407
5	South South	PortHarcourt**	74
	Total		722

Table 5. 1Distribution of Questionnaire among the Nigerian Cities

Source: CBN 2012: *Smaller City; ** Commercial Cities *** Federal Capital City of Nigeria.

The sample size was based on the rule of thumb table by Krejcie and Morgan (1970, see Appendix H). The questionnaires were administered to the top, middle and lower management of the risk management, internal audit and operational departments of the respective banks. However, most of the branches did not have a risk management department. Ironically, it has been observed that risk management staff was classified under the internal control unit in some banks, especially in the zone/area/regional offices while most of the branches did not have people in charge of risk management department at the branch level. However, they have the credit control officer who covers the duties of the risk manager in some branches.

Table 5.2 reflects the distribution of questionnaire among the respondents. Out of the 722 questionnaires, 497 questionnaires were returned representing 69 percent. Out of the 497 survey answered, 435 questionnaires representing 60 percent were found

usable while 62 questionnaires were rejected for analysis because some were not fully completed and others were not properly completed/double ticking or outliers. According to Nakpodia, Ayo and Adomi (2007), the response rate for a survey research in Nigeria is 45-73 percent. However, Hair *et al.* (2013) and Sekaran and Bougies (2010) suggest that a response rate of 30 percent is sufficient for the survey. Therefore, a response rate of 60 percent is considered adequate for the analysis of the current study. The data was keyed into SPSS version 20 for further analysis as shown in Table 5.2.

Exponses from Banks			1							
in						_			t	ate
Eight (8) cities in	ıja	E	Ichi	ngr		Jung	10	SO	t cou	al/R
Nigeria	Abi	/FC	Baı	Ent	Jos	Kae	Kai	Lag	Por Hai	Tot
No. of questionnaire	AX									
distributed		85	17	29	21	42	47	407	74	722
Returned questionnaire		59	12	20	14	30	32	278	52	497
Returned and usable		U	Jnive	rsiti	Uta	ra Ma	alays	sia		
questionnaire		54	11	17	13	25	28	242	45	435
Returned and excluded		5	1	3	1	5	4	36	7	62
questionnaire										
Questionnaire not		26	5	9	7	12	15	129	22	225
returned										
Response rate	69	9%	70%	69%	67%	71%	68%	68%	70%	69%
Usable response rate	63	%	60%	59%	61%	62%	58%	60%	60%	60%

Table 5.2Questionnaire distribution and response rate

5.2.1 Analysis of Nonresponse Bias

Armstrong and Overton (1977) suggest that nonresponse bias causes serious concern, particularly when dealing with survey research. The nonresponse bias could threaten the validity of the survey results. Irrespective of the size of the nonresponse, there is a possibility of bias and this need to be investigated (Pearl & Fairley, 1985). Therefore, it is necessary to conduct nonresponse bias analysis of this study.

Table 5.3 presents the computation of a nonresponse bias. Both the descriptive test and Levene's test for equality of variance were conducted on the continuous variables. The finding of the descriptive test did not show any significant statistical differences between (early and late) responses of the respondents.

					Levene's Test for Equali Variances		
Group		N	Mean	Std. Deviation	0	Sign.	
IAE	Early response	230	4.40	0.844	0.203	0.652	
	Late response	205	4.41	0.815			
HRC	Early response	230	4.19	0.984	1.179	0.278	
	Late response	205	4.27	0.892	Malaysia		
TMC	Early response	230	4.19	0.879	1.131	0.288	
	Late response	205	4.18	0.868			
RIS	Early response	230	4.25	0.955	1.727	0.190	
	Late response	205	4.36	0.860			
BCS	Early response	230	4.10	0.633	1.351	0.246	
	Late response	205	4.17	0.700			

Table 5.3Non Response Bias

5.3 Respondents Background Statistics

The descriptive statistics of this study provides a statistical analysis of the profile information of the respondents and the characteristics of the bank. This segment, in particular, deals specifically with the demographic profile of the respondents that
present the background data in actual figures and percentages to ease clarity of purpose. The profile of the respondents discussed in this segment includes; gender, age, category, departments, status/rank, experience, academic qualification, professional qualification and membership of professional bodies. The demographic characteristics of the bank include; the age of the bank, NSE listing, the existence of CRO, auditor type, the value of total assets and number of branches while the descriptive statistics show the computation of the mean, standard deviation, minimum and maximum for all the variables (see table 5.4).

The sample presented in Table 5.4reflects all the 435 respondents that participated in the survey, and they were all management staff of the 21 commercial banks operating in Nigeria as at 2012. As shown in Table 5.4, the male respondents almost doubled the female representing 62 percent, while the female constituted 38 percent. The age of the respondents showed that those who were less than 30 years represent 17 percent, while those between the ages of 31 to 40 years were 53 percent and that is the highest age group. Closely followed by those between the ages of 41 to 50 (28 percent), while those who were 51 years and above constituted 2 percent. Furthermore, with respect to category, 4 percent of the respondents were top management, followed by middle-level management (34 percent) and lower level management (62 percent). With respect to the departmental percentages, risk management/internal control represent 27 percent, internal audit (22 percent) while other departments represent 51 percent.

Additionally, with respect to ranking, it is shown that 1 percent of the respondents were of the rank of Board Committee Members, followed by Executive Directors (2

percent), General Managers (5 percent), Deputy General Managers (7 percent), Principal Managers (14 percent), Managers (34 percent) while another category of staff (mostly officers) represent (35 percent). Table 5.4 further reflects the years of service of the respondents in the bank. This shows that those who worked for 1 to 5 years represent 25 percent. Next are those who worked for 6 to 10 years (41 percent) and those who worked for ten years and above representing 34 percent.

Table 5.4 also demonstrated a high proportion of the participants with Bachelor's degree or equivalent representing 59 percent, followed by a Master's degree (35 percent), GCE, A Level, Diploma, or equivalent (4 percent) and Doctoral degree (2 percent). The percentage of respondents who are members of the professional body is 46 percent while those that are not members of the professional organization represent 54 percent. These percentages reflect the level of academic qualification of the respondents.

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The respondents belonged to different professional bodies and had different professional credentials that are put forward as follows with the percentage of membership. Association of National Accountants of Nigeria (ANAN) represent 13 percent, Institute of Chartered Accountants of Nigeria (ICAN) 18 percent; Chartered Institute of Management Accountants (CIMA) 3 percent; Association of Chartered Certified Accountants (ACCA) 3 percent; Institute of Internal Auditors (IIA) 2 percent and others 7 percent. The detail of other professional bodies mentioned by the respondents relates to the banking sector such as the Association of Chartered Institute of Bankers (ACIB) of Nigeria and the Nigerian Institute of Management (NIM).

5.3.1 Bank Background Statistics

Table 5.4 likewise reflects the age of the bank. The majority of the respondents agreed that their banks have been in existence for 21 years and above representing 69 percent while others agreed that their banks existed for 16 to 20 years representing 6 percent. The majority of the banks have grown over 21 years. Similarly, Table 5.4 displays the listing status of the banks as perceived by the respondents. Ninety two percent of the respondents suggested that their banks have been listed on the Nigerian Stock Exchange (NSE) and only 8 percent disagreed. The existence of CRO attracted 98 percent of the respondents that showed the extent to which ERM has been carried out in the Nigerian banks. The percentage of auditor type represents 62 percent for Big4 auditors while non-big4 represents 38 percent.

Concerning total bank assets, most of the respondents suggested that their asset base was between 76 to 100 Billion Naira representing 43 percent. While others agreed that it ranges from 101 Billion Naira and above representing 36 percent. Likewise, others opined that it ranges from 51 to 74 Billion Naira serving 11 percentwhile others agreed that it ranges from 20 to 50 Billion Naira representing 9 percent. By implication, the asset base of the banks varies between 76 to100 billionNaira only. To determine the complexity of the banks, the respondents were asked to indicate the total number of branches in their banks. The respondents indicated that the number of branches was 121 and above representing 92 percent while some stated that the range is 91 to 120 branches representing 4 percent.

Table 5.4Descriptive Statistics

Demographic factor	Details	Frequency	Percent
Gender	Male	269	62.0
	Female	166	38.0
Age	Less than 30 yrs.	77	18.0
-	31-40 yrs.	235	54.0
	41-50 yrs.	113	26.0
	51 yrs and above	10	2.0
Category of staff	Top level Management	21	5.0
	Middle level Management	149	34.0
	Lower level Management	265	61.0
Department	Risk management Dept.	114	26.0
	Internal Audit Dept.	95	22.0
	Others	226	52.0
Status/Designation	Board committee member Executive Director	14 9	3.0 2.0
	General Manager	21	5.0
	Deputy Gen. manager	29	7.0
	Principal manager	58	13.0
	Manager	144	33.0
	Others	160	37.0
Years of experience	1-5vrs.	121	28.0
	6-10 yrs.	172	40.0
	10 yrs and above	142	33.0
Oualification	Doctoral Degree	16	4.0
	Master's Degree	149	34.0
	Bachelor Degree or Equivalent	Mala ₂₅₁	58.0
	GCE or o level equivalent	19	4.0
Membership of Pro.body	Yes	202	46.0
	No	233	54.0
Professional Body	None	226	52.0
	ANAN	58	13.0
	ICAN	78	18.0
	CIMA	15	3.0
	ACCA	12	3.0
	IIA	19	4.0
	Others	27	6.0
Age of Bank	Less than 5 Years	47	11.0
	6-10 years	44	10.0
	11-15 Years	21	5.0
	16-20 Years	24	6.0
	21 Years and above	299	69.0
NSE Listing	Yes	399	92.0
	No	30	8.0
Existence of CRO	Yes	426	98.0
	No	9	2.0
			`

Demographic factor	Details	Frequency	Percent
Gender	Male	269	62.0
Auditor type	Big4	272	63.0
	None Big4	163	38.0
Value of total assets	20-50 billion Naira	41	9.0
	51-75 Billion Naira	49	11.0
	76-100 Billion Naira	187	43.0
	101 Billion Naira and above	158	36.0
Total no. of branches	Less than 30 branches	7	2.0
	31-60 branches	5	1.0
	61-90 branches	5	1.0
	91-120 branches	21	5.0
	121 branches and above	397	91.0

Examining the descriptive statistics, the following findings are deduced from the results. The result indicated that the majority of the bank staff consists of male. This is not surprising because Bambale (2013) opined that the disparity of the Nigerian gender structure is a reflection of the Nigerian population where the male is over 60 percent while the rest are female. Similarly, the sex structure was strongly supported by Badara and Saidin (2014) in their study on internal audit effectiveness in Nigerian local government which finds that 75 percent of the respondents were male while 25 percent were female.

Related to this, the finding also indicates that the highest age group of the respondents is within the range of 31 to 40 which is the productive age in the public service; therefore they are probably to be more resourceful and efficient. Hence, their responses can be honest and credible. This is not surprising since the bulk of the respondents were from the branches because most of the branch employees were of lower managers who were likely the branch managers. It has been observed that risk managers were classified as internal control officers in some banks while others regard them as credit control officers especially in the zonal/area/regional offices. This indicates lack of consciousness about the activities of ERM even though the respondents were quite aware of ERM practices as a concept, but seemed ignorant of the events as most of them were centred in the central office of the respective banks. This explains why the percentage of managers from other departments was more than twice those of risk management/internal control and internal audit departments combined together.

Similarly, these percentages may not be unconnected with the difficulty in getting access to the top level management in the banking sector and in most cases; the branch operational staff consist of officers and managers. This suggests that the respondents caught across of all categories of personnel in the Nigerian banking system. This also indicates that the participants have enough working experience in the banking sector to answer the questionnaire.

The academic qualification of the respondents is quite impressive and attests to the high quality of management staff engaged in the banking industry for ERM implementation. This implies that a larger proportion of the personnel of the banks was professionally qualified which reflect a higher degree of competency of the management staff. This greatly influenced ERM implementation because the capabilities and capacity of the management and staff have been cultivated and enhanced for greater execution of ERM program. However, it has been observed that ERM practices are centred in the headquarters of the banks while there is a low level of awareness among the staff at the branch operational level. The respondents saw the

ERM activities as normal instructions from the head office to enhance internal control as there was no designated manager or officer responsible for ERM activities in the branches.

This result shows that both the Big4 and non Big4 auditors are still being engaged by the Nigerian banks. By implication, some banks seemed to be satisfied with the quality and services provided by the local auditors and do not mind engaging them, while the majority of the banks prefer high-quality auditors such as the Big4 to ensure international best practices. This study is actually an extension of the studies by several authors (see; Beasley *et al.*, 2005; Dabari & Saidin, 2014; Daud, Haron & Ibrahim, 2011; Desender, 2007, 2011; Hoyt & Liebenberg, 2003; 2011; Kleffner, 2003; Manab &Kassim, 2012; Pagach & Warr, 2007; Rasid & Golshan, 2011).

5.4 Data Screening and Preliminary Analysis

Data screening is critical to the multivariate analysis because it enables the researcher identify any violation of the presumptions underlying the multivariate techniques that will be used for the data analysis (Hair *et al.*, 2007). The initial data editing and screening will have a consequent impact on the tone and meaningful outcome of the study (Maiyaki & Moktar, 2011). The researcher will stand to gain from proper initial data screening and cleaning because it aids the researcher to understand better the data set collected for further analysis.

Prior to data screening, all the 435 questionnaires were coded and keyed into SPSS version 20. All the details were properly determined to ensure that there was no wrong coding by re-coding and re-phrasing some items accordingly. For example, the

dependent variable measured on ordinal scale was changed to nominal scale and recorded as well. One item (internal audit independence and objectivity) was deleted from internal audit effectiveness. The preliminary data analysis with respect to missing value analysis, assessment of outliers and test of multicollinearity were done (Tabachnick & Fidell, 2007).

5.4.1 Missing Data

The shock of losing information on any research findings is vital because it can consistently affect the generalizability of the outcome of the survey. It can as well cut down the amount of sampling size that will be utilized for analysis (Abdul Wahab, Zain & James, 2011). The failure of a researcher to accurately find and treat missing data is capable of sustaining a negative consequence on the outcome of the empirical inquiry. Thus, much care must be paid to data screening and cleaning. The researcher ensured that information was correctly recorded and properly coded. The form of the missing values was also determined to assess whether it was random or if there was some pattern in the occurrence (Tabachnick & Fidell, 1996).

After keying in the data into SPSS, a preliminary descriptive statistics was carried out to identify the natural event of missing values. Out of the 62 questionnaires returned but excluded from the analysis, 32 questionnaires were screened out due to incomplete filling leaving 465. 18 missing values were found which constituted 3.87 percent of the data set. This is less than 5 percent allowable (Cavana, Delahaye,& Sekeran, 2001) (see table 5.7). After deducting the 18 missing values, 447 questionnaires were left for analysis.

Although in that respect, there is no acceptable percentage of missing values in a dataset for creating a valid statistical inference, researchers have mostly agreed that missing rate of 5 percent or less is non-significant (Kura, Shamsudin,& Chauhan, 2013; Tabachnick & Fidell, 2007). The missing values were processed and replaced with a variable mean option. This method is utilized because it is simple to accomplish and time efficient. Even though, it is the easiest option but it can lower variability with the resultant issue of bias results. Table 5.5 shows the number and percentage of missing values.

Variables	Number of Missing Values
Stage of ERM implementation	2
Internal audit effectiveness	4
Human resource competency	1
Regulatory influence support	3
Top management commitment	2
Board characteristics support	Universiti Utara Malaysia
Chief rsik officer	2
Bank size	1
Current risk management focus	2
Total	18 out of 465 returned data set
Percentage	18/100 x 465= 3.87%

Table 5.5 Total and Paraantaga of Missing Values

5.4.2 Assessment of Outliers

To ensure further data screening and error-free analysis, an appraisal and handling of outliers were carried away. Coakes, Steed and Ong (2009) define outliers as any observations which are numerically distant in comparison with the other data set. This research used the table for Chi-square statistics to determine the optimal values as a threshold. Established on 49 observed variables of the written report, the recommended limit of chi-square is 87.97 (p = 0.001). Twelve multivariate outlier cases (52, 60, 92, 137, 182, 195, 196, 262, 253, 268, 276 and 347) were found and deleted accordingly due to Mahalanobis distance value. Therefore, after deleting the 12 outliers from 447, 435 questionnaires were finally left for further analysis.

5.5 Descriptive Statistics

Sekaran and Bourgie (2010) suggest that descriptive analysis is related to the definition of the phenomena of interest as well its interpretation and presentation. Descriptive analysis describes the basic characteristics of the respondents in the sample, respond to specific research questions and checks all the variables to ensure that the assumptions of the techniques used in the study are not violated (Coakes, 2013; Pallant, 2013). This involves frequency, and the descriptive statistics of all the variables in the Model with respect to minimum and maximum values, average score, or measure of central tendency (mean and median) and the range of variability (standard deviation).

It further presents the descriptive analysis of the current state of ERM practices in the Nigerian banks to answer research question one and provide more evidence to substantiate the stage of ERM implementation. The percentages of current of ERM practices in the banks are also presented. These include; current ERM efforts; development of a framework for ERM implementation; the drivers or motivation for ERM adoption and areas of risk that threatens the banks and becomes a top priority.

5.5.1Current State of ERM Practices

There are also other indicators of the activities signalling the current level of ERM practices in the Nigerian banks. By implication, this is the current state of ERM practices in the bank. The current state of ERM practices was measured by the current focus of ERM efforts (CFR) in the bank, development of a framework for ERM implementation (DEF), motivation for the adoption of ERM in the bank and the areas of risks that present greatest potential threats and have become a top priority for the bank (APT). Several studies (Beasley *et al.*, 2010; 2014; Kleffner *et al.*, 2003; Manab, 2009; Mikes, 2009; Owojori *et al.*, 2011; Paape & Speklè, 2012; PricewaterhouseCoopers, 2008)used these constructs to assess the current status of ERM practices in organisations. These also support the stage of ERM implementation in the Nigerian banks, as it highlights the various levels of activities to enhance ERM implementation.

Table 5.6 shows the percentages of the current focus of ERM efforts towards ERM practices. The respondents agreed and strongly agreed that the integration of ERM activities into day to day operations have become a top priority for the bank representing 94 percent. Similarly, risk management considerations are explicitly factored into decision making representing 92 percent. The respondents also rated the existence of CRO at 88 percent which shows the level of ERM implementation as indicated by the existence of CRO in majority of the banks. As part of the current ERM effort, ERM integrates risk management with corporate strategic planning representing 92 percent.

Further evidence of current ERM efforts entails aligning ERM initiatives to bank objectives and strategies with 90 percent. There is also a system put in place to promote risk optimization and opportunities, scoring 92 percent and finally, integrating ERM across all functions and bank business units with decision making representing 91 percent. All these signal the current efforts towards higher level of ERM practices in the bank.

Table 5.6

Focus of ERM activities	Percentage
Integration of risk management into day to day operations	94
Risk management considerations are explicitly factored into decision making	92
Existence of the rank of chief risk officer (CRO)	88
ERM integrates risk management with corporate strategic planning	92
Aligns ERM initiatives to bank objectives and strategies	90
Put a system in place to promote risk optimisation and opportunities	92
Integration of ERM across all functions and bank business units	91

Percentages of Current Focus on Risk management Efforts

From Table 5.7, it is evident that the banks used different frameworks to implement ERM in their respective banks. The percentage of respondents that agreed and strongly agreed that the current framework was developed from the existing risk management framework within the bank represent 92 percent, while those who strongly agreed that the ERM framework was adopted from Basel 11 Capital Accord represent 76 percent. Some agreed that the current ERM framework was adopted from the the CAN/CSA-Q850-97 RM Guidelines for decision makers with 74 percent.

However, others strongly agreed that the ERM framework was developed from the COSO, (2004) ERM integrated framework scored 74 percent. The percentage of those who strongly agreed that the current ERM framework was developed from the Nigerian code of corporate governance by CBN 2006/2011 represents 91 percent. The

issue of ERM framework has been identified as a major barrier to ERM implementation in majority of the Nigerian banks.

Percentages of Development of ERM Framework				
Percentage				
92				
76				
74				
74				
91				

Table 5.7

Table 5.8 reflects the percentage of the motivating factors for the adoption of ERM in the Nigerian banks. The highest percentage of 95 percent was scored by compliance with regulatory demands. The respondents perceived that compliance with regulation was the most important factor in the adoption of the ERM system because the regulatory authority made it mandatory for every bank to institute a robust risk management process to manage their risk exposures and maximize every opportunity associated with risk taking to the advantage of the bank.

The respondents also agreed that the mandate from the Board of Directors representing 83 percent was another factor for the implementation of ERM process. Others are; the desire to protect and improve shareholder value (93 percent), external/internal auditor's influence (80 percent), emerging corporate governance requirements (92 percent) and emerging best business practices scored 92 percent. These percentages are supported by several studies (Colquitt *et al.*, 1999; Desender, 2007; Kleffner *et al.*, 2003; Manab & Kassim, 2012).

Table 5.8

Factors of Motivation	Percentage
Compliance with regulatory demands	95
Mandate from the Board of Directors	83
The desire to protect and improve shareholder value	93
External/Internal auditors influence	80
Emerging corporate governance requirements	92
Emerging best business practices	92

Percentages of Motivations to Adopt ERM in the Bank

Table 5.9 specifies the areas of risk which present greatest potential threats and become a top priority for the bank. The findings show that compliance risk (83 percent), credit risk (89 percent), information security risk (87 percent), market risk, (82 percent), operational risk, (88 percent), reputational risk, (81 percent) and liquidity risk, (85 percent). The finding implies that the banks are exposed to all these risks and must be properly managed.

Table 5.9

Percentages of Areas of Risk which bresent greatest Potential Thre	ercentages (
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Areas of Risk which threatens the bank and become a top priority	Percentage
Compliance risk	83
Credit risk	89
Information security risk	87
Market risk	82
Operational risk	88
Reputational risk	81
Liquidity risk	85

Table 5.10 presents the descriptive statistics of the variables in the framework reflecting the mean, standard deviation, maximum and minimum. The variable with the highest mean of 4.40 and standard deviation (0.829) is internal audit effectiveness. This variable has been significantly active in all the Models and makes a significant contribution to the variation in the dependent variable. The other variable is human

resource competency with a mean of 4.23 and the highest standard deviation of 0.941 which has always been significantly active in all the Models as well, making a valuable contribution to the Model.

Top management commitment is another variable with a mean of 4.18 and standard deviation of 0.873 that makes great contribution to the Model while regulatory influence support has a mean of 4.30 and a standard deviation of 0.912. This variable has mixed result in all the Models. However, most of the respondents' ticked higher options such as agreed and strongly agreed which resulted in high mean and standard deviation with slight differences.

Table 5.10Descriptive Statistics for Independent Variables

	J	1			
Construct	Ν	Minimum	Maximum	Mean	Std. Deviation
IAE	435	1	5	4.40	0.829
HRC	435	1	5	4.23	0.941
TMC	435	1	5	4.18	0.873
RIS	435	Universit	ti Uzara	Ma 4.30 STa	0.912
BCS	435	1	5	4.13	0.666

5.5.2 Descriptive statistics of the Stage of ERM Implementation

Most of the previous authors measured the stage of ERM implementation as a categorical ordinal variable, or proxy by the appointment of CRO (Beasley *et al.*, 2005, Kleffner, 2003;Pagach &Warr, 2011, Liebenberg & Hoyt, 2003) while this study tested the stage of ERM implementation as a categorical (dummy) variable with the value of 1 or 0 and introduced the board characteristics as a moderator to investigate the effect of the board characteristics on the relationship between the antecedents (IAE, HRC, RIS & TMC) and the stage of ERM implementation. Additionally, some of the antecedents were tested for the first time in this context.

These are IAE and HRC and are found to be positively significant with the stage of ERM implementation.

This study used descriptive analysis to answer research questions one and two invariably determine objectives one and two before moving to the multivariate analysis for addressing research questions three and four. Research question two state that; "To what extent is the stage of ERM implementation in the Nigerian banking sector?" In response to the research question, the following research objective two state that; "To determine the stage of ERM implementation in the Nigerian banking sector".

As a result of the findings from the pilot test and suggestions from the experts and the focus group, the measurement was modified from ordinal to nominal scale. Thus: ERM complete in place and ERM partially in place. This was on the basis that the banks had no choice but to implement either fully or partially in compliance with CBN mandate. The result of ERM complete in place was 386 respondents representing 89 percent while ERM partial in place was 49 respondents representing 11 percent. The result has, therefore, answered the research question two of the study which shows ERM completely in place by a greater proportion of the Nigerian banks. This indicates that there was a significant degree of conformity with the CBN directive on ERM implementation. The percentage of the stage of ERM implementation is reflected in Table 5.11.

Stage of ERM	Frequency	Percent	ERM Status
ERM Partial in place	49	11	Partial
ERM Complete in place	386	89	Complete
Total	435	100	

Table 5.11Stage of ERM Implementation (SERM)

ERM Complete in place=1: ERM Partial in place=0

5.6 Validity Test

In line with previous studies, a content validity was conducted by distributing some questionnaires to some experts in academics and in professional practices to get feedback concerning the suitability, content, layout and adequacy of the items. Useful feedback was received. The face validity was also conducted through a group of nine managers of some commercial banks in Yola, the Adamawa state of Nigeria who reviewed the questionnaire and made useful input. These were earlier discussed in more details in the previous chapter.

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Several types of reliability tests are usually employed by those conducting research to check the validity of the research instruments (Litwin, 1995). However, due to the assumption of logistic regression, only internal consistency reliability test was performed on the independent variables to assess the factor loading, KMO, eigenvalue and the variances. Schwab (2010) suggest that logit Model is a non-linear Model; hence the assumptions associated with independent variables such as linearity; normality and homoscedasticity are not necessarily required for the application of the Model. Furthermore, a logistic regression Model neither assumes the linearity in the relationship between the risk factors and the response variable nor does it require normally distributed variables. It also does not assume homoscedasticity, and, in general, has less stringent requirements than linear regression Models. However, it

does require that observations are independent and that the independent risk factors are linearly related to the logit of the response variable (Agresti, 2002; Collett, 2003; Fairchild & MacKinnon, 2009; Fraser & Galinsky, 2010).

Table 5.12 presents the result of the factor loading, KMO, Eigenvalues, Bartlett's Test of Sphericity and the significance of the independent variables. From the Table, all the items of the independent and moderating variables were subjected to principal component analysis (PCA). Despite the fact that the items were adapted from previous studies, the measures were however, used in different context and were modified to suit the research objectives and the context in which the study was conducted. The Kaiser-Meyer-Elkin (KMO) measure of sampling adequacy was 0.842 which is far above the acceptable value of 0.6 (Kaiser, 1974).

Similarly, the Bartlett's Test of Sphericity was statistically significant at P < 0.000. This demonstrates that there are some relationships existing among the variables under consideration. Principal component analysis shows the presence of five components with eigenvalues of above 1 explaining the cumulative variance of 86.1 percent. The factor solution should explain at least a half of each original variable's variance. Therefore, the communality value for each variable should be 0.5 or higher. Quite interestingly, all the items have a communality value of 0.5 or greater. All the elements show simple structures by only loading highly on one component (see Appendix B for more details). Table 5.12 shows the summary of results for factor loading, KMO and Bartlett's Test of Sphericity.

Table 5.12

Summary of Resu	lt of Factor I	loading. KM	O and Bartlett's	Test of Sphericity
		100000000, 11111		

S/No	o. Variable Name	Codes	1	2	3	4	5
1	Regulatory Influence	RIS1	0.894				
	Regulatory Influence	RIS2	0.904				
	Regulatory Influence	RIS3	0.903				
	Regulatory Influence	RIS4	0.911				
	Regulatory Influence	RIS5	0.893				
	Regulatory Influence	RIS6	0892				
2	Internal Audit Effectiveness	IAE1		0.915			
	Internal Audit Effectiveness	IAE2		0.928			
	Internal Audit Effectiveness	IAE3		0.938			
	Internal Audit Effectiveness	IAE4		0.939			
	Internal Audit Effectiveness	IAE5		0.948			
	Internal Audit Effectiveness	IAE6		0.948			
	Internal Audit Effectiveness	IAE7		0.928			
	Internal Audit Effectiveness	IAE8		0.950			
3	Human Resource Competency	HRC1			0.937		
	Human Resource Competency	HRC2			0.940		
	Human Resource Competency	HRC3			0.936		
	Human Resource Competency	HRC4			0.946		
	Human Resource Competency	HRC5			0.938		
	Human Resource Competency	HRC6	1110	ara N	0.929	i a	
	Human Resource Competency	HRC7		ara r	0.902		
4	Top Management Commitment	TMC1				0.946	
	Top Management Commitment	TMC2				0.947	
	Top Management Commitment	TMC3				0.948	
	Top Management Commitment	TMC4				0.949	
	Top Management Commitment	TMC5				0.944	
	Top Management Commitment	TMC6				0.942	
	Top Management Commitment	TMC7				0.946	
	Top Management Commitment	TMC8				0.945	
	Top Management Commitment	TMC9				0.945	
	Top Management Commitment	TMC10				0.952	
5	Board Characteristics	BCS1					0.500
	Board Characteristics	BCS2					0.531
	Board Characteristics	BSC3					0.724
	Board Characteristics	BCS4					0.578
	Board Characteristics	BCS5					0.706
	Board Characteristics	BCS6					0.672

S/No.	Variable Name	Codes	1	2	3	4	5
Board	d Characteristics	BCS7					0.751
Board	d Characteristics	BCS8					0.599
Eigen	ivalues		16.62	6.16	4.91	3.61	2.27
Perce	entage of Variance		42.62	15.79	12.59	9.25	5.82
KMO)						0.842
Bartle	ett's Test of Sphericity						42366.672
Signi	ficance						0.000

 Table 5.12 (Continued)

 Summary of Result of Factor loading. KMO and Bartlett's Test of Sphericity

Rotation converged in 5 iterations.

5.6.1 Correlation Analysis

Table 5.14 presents the correlation between the variables while Table 5.15 indicates that the correlation matrix is under the value of 0.90. Nevertheless, these coefficients are below the benchmark of 0.7 given by Bryman and Cramer (2005) and unlikely to lead to multicollinearity. The independent variables were not highly correlated. The existence or non-existence of possible multicollinearity is confirmed further by diagnostic tests. The study used variance inflation factors (VIF) to test for multicollinearity. According to Hair (2010) VIF values above 5 (which correspond to tolerance value below 0.20) indicate a multicollinearity problem. The VIF values are shown in Table 5.15. The VIF values displayed the nonexistence of the multicollinearity problem as the values fall below 5 for all the independent variables.

The second approach involves the examination of the correlation matrix for the independent variables, the variance inflated factor (VIF) and the tolerance value were critically assessed to detect the multicollinearity problem. Multicollinearity is a concern if the VIF is greater than 5; the tolerance value is below 0.20 (Hair, Ringle and Sarstedt, 2011). Table 5.15 below shows tolerance values to a higher place 0.20

and the VIF values which are less than 5 (Hair et al., 2006). It is crystal clear that tolerance ranges from 0.591 to 0.804 which are above 0.20 which is >0.20 while VIF ranges from 1.244 to 1.691, and thus, is acceptable as being <5 (Tabachnick & Fidell, 2007). Once and for all, in that respect there is no multicollinearity problem among the independent variables.

Table 5.13

Correlation					
Construct	1	2	3	4	5
1) Top management commitment	1.000				
3) Human resource competency	.393	1.000			
4)Regulatory influence	.434	.209	1.000		
5) Board characteristics	.284	.274	.137	1.000	
6) Internal audit effectiveness	.443	.313	.422	.188	1.000

Note: Off diagonal elements are the correlations among constructs

Multicolllinearity Test			
Construct	Coding	Tolerance	VIF
Internal audit effectiveness	s (IAE)	0.754	1.327
Human resource competen	cy (HRC)	0.804	1.244
Top management commitm	nent (TMC)	0.749	1.335
Regulatory influence supp	ort (RIS)	0.591	1.691
Board characteristic suppo	rt (BCS)	0.663	1.508

Table 5 14

5.7 Hypotheses Testing

The hypothesized Model is a Model that incorporates all the independent variables and the dependent variable including the moderating variable. Eight hypotheses have been formulated from the Model with four for the independent variables and also four for the moderating variable. Nevertheless, five control variables have been introduced but without hypotheses in line with other studies (Paape &Spekel, 2011). Some of the goodness of fit (GOF) indices with regards to the hypothesized Model did not meet the required threshold as expected. This limitation was nonetheless overcome through the robustness or expanded Model. To this end, the Model goodness of fit and Model specification was finally achieved after the robustness or expanded Model. Detailed analysis and discussion on the Model GOF has been highlighted in the subsequent sections.

5.7.1 Logistic Regression for Research Models 1 to 3

After preliminary data analysis, Logistic regression was then used to carry out the analysis for testing the hypotheses formulated. Hair, Black, Babin and Anderson (2010) suggest that "logistic regression is derived from logit transformation which is associated with categorical dependent variables" P.6). Logistic regression is employed to answer questions three and four which provide explanations of the factors that influence the stage of ERM implementation in the Nigerian Banking sector. The analysis predicts the effect of the antecedents on the stage of ERM implementation.

Universiti Utara Malaysia

In line with the method adopted by prior researchers (Daud *et al.*, 2011; Desender, 2007), the logit Model was also used to examine the effect of internal audit effectiveness (IAE), human resource competency (HRC), regulatory influence support (RIS) and top management commitment (TMC) on the stage of ERM implementation (SERM) in the Nigerian banks. This technique was further used to investigate the moderating effect of board characteristics on the relationship between the IAE, HRC, RIS, TMC and SERM.

Leech, Barrett and Morgan (2005) suggest the application of logit Model if the Model contains both continuous and dummy variables. Alternatively, the Model contains a categorical dependent variable. In this case, the stage of ERM implementation is the

dependent variable, which is a dummy variable that takes the value of 1 or 0. If ERM complete in place 1, if otherwise, 0 or, ERM partial in place is 0. However, all the independent variables are continuous on a 5 Likert scale except the demographic variables which are, either nominal or ordinal. According to Schwab (2010), logit Model is a non-linear Model; hence the assumptions associated with independent variables such as linearity; normality and homoscedasticity are not necessarily required for the application of the model. Nevertheless, there are also assumptions of logistic regression which need to be satisfied.

5.7.2 Model Assumptions

Pallant (2007) stated three assumptions of logistic regression Model which include large sample size, multicolinearity problems which deal with the inter-correlation problem between independent variables and finally, problem of outlier. These assumptions provide the need to conduct reliability tests with respect to the independent variables to ensure that all the assumptions are met before embarking on the multivariate analysis.

Various tests have been conducted and discussed to ascertain the validity and reliability of the data in the preceding sections. The sample size of the study is large which met the first assumption. Similarly, various reliability tests have been conducted in terms of outliers, correlation, factor loading, eigenvalue, variances and they have all met the assumptions required for further multivariate analysis. The next stage is to ascertain the goodness of fit of the Model to the data and its specification.

5.7.3 Goodness-of-Fit Statistics

To ensure that these assumptions were satisfied, some diagnostic tests were conducted in the subsequent sections before running the logistic regression. In this segment, the tests to be conducted are Model fit tests and Model specification tests, if these assumptions are met, then the logit Model shows a good Model fit. This is contrary to predictors as obtained in OLS linear function (Lottes, Adler & Demoris, 1996). The summary of result of the goodness of fit of the Models is reflected in the goodness of fit Tables. The result is presented in terms of Likelihood ratio, Wald chi-square test, Hosmer and Lemeshow Test and Percentage of correct classification.

Model 1 contains the key variable (RIS) and the new variables (IAE and HRC) introduced by the researcher as a contribution. The purpose is to assess the effect of the key (RIS) variable on the dependent variable in conjunction with the new variables to see if there was any significant difference between the outcomes. Model 2 contains the variables in the framework for which hypotheses have been formulated. The independent variables include; RIS, IAE, HRC, TMC and the moderating variable. The Model is meant to assess the overall effect of the independent variables on the dependent variable to determine if there was a likelihood difference existing between the results of the estimated Model and the actual Model predicted based on the data set. This is the expanded or robustness model that achieved the goodness of fit of the Model to the data.

Model 1

Table 5.15 shows the detail result of the measures of the goodness of fit of the model1 which is yet to achieve model fit. Similarly, Table 5.16 reflects the hat and hatsq that measure the model specification which is yet to be achieved as well.

Table 5.15Tests for Goodness of Fit (Binary Model 1)

Tests	Results	
No. of Cases (N)	435	
Likelihood Ratio $x^{2(10)}$	= 23.44	
Wald chi-square test	p-value = 0.0003	
Hosmer-Lemeshow	p-value = 0.7772	
Percentage of Correct Prediction	PCP = 88.90%	

Table 5. 16

Model S	pecification	Test ((Linktest,	Model I	1)
11000000	pecification	1000	Diminesi,	111000000	٠/

Result	
p-value = 0.235	
p-value = 0.736	
	Result p-value = 0.235 p-value = 0.736

Model 2

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Table 5.17 shows the Model chi-square coefficients at significant level of p-value = 0.0038 and llikelihood ratio X^2 at 25.98%. Therefore, the Model is statistically significant at p-value less than 1 per cent. The Hosmer and Lemeshow test further substantiated the overall goodness of fit of the Model by the insignificant p-value of 0.5526as indicated in the Table 5.17. This is expected because Hosmer and Lemeshow advocate that p- value should be larger than the significant value of p=000 for a well-specified Model. Therefore, we fail to reject the hypothesis that there is no significant difference existing between the observed and the predicted values of the Model.

Table 5.17

Tests	Results	
No. of Cases (N).	435	
Likelihood Ratio $x^{2(10)}$	= 25.98	
Wald chi-square test	p-value = 0.0038	
Hosmer-Lemeshow	p-value = 0.5526	
Percentage of Correct Prediction	PCP = 88.97%	

Tests for Goodness of Fit (Binary Model)

Table 5.8 shows the Model specification which has not achieved a correct specification since both the hat and hatsq are all significant which does not conform to a well specified Model.

Table 5.18Model Specification Test (Linktest)

Test	Result
Linktest	
Hat	p-value = 0.283
Hatsq	p-value = 0.559

Model 3

Model 3 contains all the independent variables in Model 2 (RIS, IAE, HRC, TMC and BCS), and the control variables (audit type, bank assets, bank complexity, CRO and NSE listing) introduced by the researcher in line with the prior literature. All the control variables have been used as control variables in the literature (Beasley *et al.*, 2005; Paape &Spekle, 2011) which informed the decision to conceive them as such in this study. These constructs have been empirically tested in the literature (Desender, 2007; Kleffner *et al.*, 2003; Paape & Spekle, 2011). The primary objective of examining the expanded Model is to appraise the overall performance of the variables in Model 2and the control variables on the dependent variable (SERM).

From the Table 5.19, it is clear that the model has attained an excellent goodness of fit because the likelihood ratio chi-square is 43.71 at a statistically significant level of 1

percent (p-value=0001). The Wald test X^2 is 34.98 at the level of significant at 1 percent (p-value=0. 0025). Hosmer and Lemeshow test shows insignificant p-value =0. 5661. The last measure of the goodness of fit of the model is the percentage of correct classification (PCC) of the observed and the predicted estimates that are reflected in the classification table. There is no significant difference existing between observed estimate (88.7) and actual classification (88.97) ceteris paribus. The PCC demonstrates the predictive power of the Model in terms of its ability to accurately classify the outcomes of the dependent variable. The percentage of (88.97) PCC is considered very high given the suggestion by Pampel (2000) that prediction cases between 50 percent and 100 percent are accurate measures of prediction.

The outcome of the test enabled the researcher fail to reject the hypothesis that there is no significant difference existing between the hypothesized Model and the expanded Model in terms of predicted estimates of the data set. This is the Model for robustness and is part of the sensitivity test of the Model. The overall model fits the data, hence, the rejection of the null hypothesis because at least one of the parameters in the model has impacted on the dependent variable. Consequently, we conclude that the approximations of the framework fit the data at an acceptable level.

Table 5.19

Tests	Results
No. of cases (N)	435
Likelihood Ratio x^2	p-value $= 0.43.71$
Wald chi-square test	p-value = 0.0001
Hosmer and Lemeshow	p-value = 0.5661
Percentage of Correct Prediction (PCP)	PCP = 88.97%

Test of Goodness of Fit for Model 3

5.7.4 Test of the Model Specification

The goodness of fit tests for the Model and the Model specification test are equally critical because they ensure that misleading inferences are avoided. It also helps to check the bias and inconsistent outcomes. The command for the Model specification test is link test. Table 5.20 presents the result of the link test and it is usually the test for nonlinear regression Models reflected under Models 3 and 4. The assumption of this analysis is that a correctly specified Model will only accommodate an insignificant additional independent variable. However, if there is any other variable that is significant, it is only by chance.

Link test shows two variables as indicated in Table 5.20, hat represents the predicted value from the Model, and thus it is expected to be significant. On the other hand, hatsq represents the predictor to rebuild the Model and is expected to be insignificant. Pregibon (1980) recommend that to satisfy the link test, the hatsq should be insignificant while the hat should be significant. Tables 5.20 show that the Model is specified as hatsq is insignificant, but hat is also equally insignificant for Model 3 and this negatives the assumption. However, Model 4 has addressed this concern by attaining a good fit to the data. The Model is now correctly specified as hatsq is insignificant at 0.471, and hat is significant at 1 percent (p-value=0.004). The result conforms to the assumption of a well-specified Model. Therefore, the overall outcomes of the analysis are that the Models under investigation have a right fit to the data and well specified for testing the hypotheses.

Table 5.20 present the result of the expanded model for logistic model specification test. The model is now correctly specified as hatsq is insignificant at 0.471, and hat is

significant at 1 percent (p-value=0. 004). The result conforms to the assumption of a well-specified model. Therefore, the overall outcomes of the analysis are that the models under investigation have a right fit to the data and well specified for testing the hypotheses.

14010 5.20	
Test of Model specification for Mo	odel 3
Test	Result
Linktest	
Hat	p-value = 0.004
Hatsq	p-value = 0.471

Table 5 20

5.7.5 Summary of Models 1 to 3 for Logistic Regression

The Stata uses the likelihood estimate R², Wald test R², Hosmer-Lemeshow test, lfit, group (10) table and the classification prediction table (lstat) to assess the goodness of fit of the Model. It also uses the link test to measure the Model specification. Table 5.21 presents the summary of all the Models 1 to 3 containing the independent Utara Malays variables and the control variables in the questionnaire to boost the effect of the overall model. From the Table 5.21, the individual performance of the independent variables on the dependent variable can be measured based on the elaboration of each Model and the level of significance continue to change due to increase in the number of variables in the Model. Three variables (IAE, HRC and TMC) consistently remain statistically significant in all the Models.

The RIS was positively statistically significant at 10 percent in Model 1. After that, it continues to be insignificant in the subsequent Models. The performance of this variable is contingent upon other factors. Since the introduction of IAE and HRC in Model 1, they have been consistently positively statistically significant at 10 percent and 5 percent level of significance in all the Models including the Model of robustness. These variables continue to impact greater influence on the dependent variable even with the entry of more variables. However, these are the new variables that are being tested for the first time in this context.

Since the introduction of TMC and BCS in Model 2, it has been increasing in the level of significance from 5 percent in Model 2 to 1 percent in Model 3. The five control variables (audit firm, bank size, bank complexity, CRO and NSE listing) introduced were not statistically significant and, therefore, did not contribute to explaining the variable of interest in all ramifications. However, BCS is negatively significant. Therefore, Model 3 has satisfactorily met all the measures of goodness of fit of the Model and its specification with respect to the data in the study and finally, answers question three as demonstrated in Table 5.21.

Variable	Model 1		Model 2		Model 3	
	b	S.E	В	S.E	b	S.E
Regulatory Influence	.327*	.169	143	.193	1.118	.218
Internal Audit Effectiveness	.287*	166	.342*	.180	1.455**	.268
Human Resource Competency	.278*	.154	.375**	.166	1.460**	.242
Top Management Support			.431**	.184	1.599**	.301
Board Characteristic			643**	.292	.544**	.159
Auditor type					1.207	.411
Bank size					1.1417	.197
Bank complexity					.809	.258
Existence of CRO					.715	.779
NSE Listing					1.994	1.380

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Ia	ble	Э.	21	

Table 5.21	Invoin
Summary of Models 1 to 3 for Logistic Regression	lidysid

5.7.6 Stata Structural Equation Modeling

To further confirm the regression results, the hypothesized models are empirically tested using the structural equation modeling (SEM) approach. Structural Equation Modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs. Kline (2015) opined that SEM also known as path analysis with latent variables, which is now a regularly used method for representing dependency (arguably "causal") relations in multivariate data in the behavioural and social sciences. This method is preferred by the researcher because it estimates the multiple and interconnected dependence in a single analysis. However, it was the SEM in Stata that was applied for the analysis of the present study. In this analysis, two types of variables are used endogenous variables and exogenous variables. Endogenous variables are equivalent to dependent variables and are equal to the independent variable.

Assumption of SEM

Because SEM has the ability to model complex relationships between multivariate data, sample size is an important. Two popular assumptions are: that one needs more than 200 observations, or at least 50 more than 8 times the number of variables in the model. A larger sample size is always desired for SEM. Like other multivariate statistical methodologies, most of the estimation techniques used in SEM require multivariate normality. The present study has satisfied this assumption since it has a sample size of 435 but it is not normal because the dependent variable is dichotomous. This is a constraint for good Model fit. The result from the Stata SEM

is reflected in the following Figure 5.1 and Table 5.22 respectively while the output is shown in Appendix 6.

The Figure 5.1 and Table 5.22 show the SEM result of the standardized regression for the structural Model. This implies that the model has a constraint because the dependent variable is categorical or dichotomous. The standardized regression estimates depicts that three direct paths have positive and significant relationship with SERM result. However, the direct path values of RIS and BCS are very low which do not meet the threshold of minimum of 0.5. Thus the following hypotheses were supported (H2, H3 & H4) while H1 and H5 are not supported even though they are all positive. Those that are positive and significant are; Internal audit effectiveness to stage of enterprise risk management β =0.90, TV, 7.33; p<0.000); human resource competency to stage of enterprise risk management (β =1.12, TV, 7.50; p<0.000) and top management commitment to stage of enterprise risk management(β =0.1.19, TV, 7.7.98; p<0.000).On the other hand, regulatory influence ((β=1.59, TV, 9.02; p<0.000) and ($\beta=0.1.03$, TV, 8.47; p<0.000) while the R² is 19%. This SEM result is in complete agreement with the regression result reflected in the preceding pages and Table 5.22.



Figure 5.1: Structural Equation Model

Table 5.22The Stata SEM Result for the Research Model

Result of Hypothesized Direct Path	Standardized Regression Estimate	β	TV	Р	
H1	IAE> SERM	0.90	7.33	0.00	
H2	HRC> SERM	1.12	7.50	0.00	
Н3	TMC> SERM	1.19	7.98	0.00	
H4	RIS> SERM	1,59	9.02	0.00	
Н5	BCS> SERM	1.03	8.47	0.00	

5.7.7A Moderating Effectof BCS on the Antecedents of ERM Model (Model 4)

Model 4 contains the independent variables in the framework and the moderating effect of BCS on the relationship between the independent variables (RIS, IAE, HRC, and TMC) and the dependent variable (SERM). The primary aim of this Model is to test the hypotheses in respect of the interaction term so as to answer question four. The question state; what is the moderating effect of BCS on the relationship between RIS, IAE, HRC and TMC and the dependent variable? This invariably highlights objective four.

The result in Table 5.23 shows that TMC is positively significant at 1 percent, while the IAE is negatively significant at 5 percent. The BCS negatively moderates the relationship between the TMC and the SERM at a statistical significance of 1 percent and positively moderate the relationship between the IAE and the SERM at a statistical significance of 1 percent. On the other hand, the other variables (RIS and HRC) in the framework have become statistically insignificant. The BCS equally fails to moderate the relationship between the RIS and HRC, and SERM. Conclusively, BCS does not moderate the relationship between RIS, HRC, TMC and the SERM. Likewise, there is no moderating effect of board characteristics on all the control variables. Summary of the result of the moderating effect of the BCS on the antecedents is reflected in Table 5.23.



Variable	Model 4	
	В	S.E
Regulatory Influence	-1.128	1.136
Internal Audit effectiveness	-2.181**	.958
Human Resource Competency	.155	.889
Top Management Support	3.351***	1.260
Board Characteristic	-1.163	1.203
Auditor type	.234	.354
Bank size	.217	.188
Bank complexity	358	.359
Existence of CRO	134	1.165
NSE Listing	.512	.734
BCSIAE	.678***	.245
BCSHRC	.027	.233
BCSTMC	758***	.309
BCSRIS	.254	.285
BCSAUDTYPE	121	.441
BCSBSIZE	.148	.274
BCSBC0MP	181	.218
BCSCRO	.185	.198
BCSNSELISTING	Utara Malays	.271

Table 5.2.3Moderating effect of board characteristics on the antecedents

Significant at p < 0.05: *Significant at p < 0.01.

5.7.8 Odds Ratio for Coefficients

Despite the fact that we have obtained the coefficients, it is necessary that we equally obtain the value of odds ratios to understand the result of the analysis correctly. The odds ratio gives an easier alternative to interpreting the estimates. The odds ratio in this study is the ratio of the probability of decision "to implement an ERM complete in place" to the likelihood of the decision to "implement ERM partial in place". Table 5.23 presents the coefficients, standard error, the level of significance and odd ratios based on the expanded Model of the logistic regression. The P-value and odd ratios are the same for both logit and logistic regression Models.

Constructs	Coefficients	Sig.	Odd Ratios
Internal Audit Effectiveness (IAE)	.391	.038**	1.478
Human Resource Competency (HRC)	.389	.028**	1.476
Top Management Support (TMC)	.558	.004***	1.748
Regulatory Influence Support (RIS)	.098	.629	1.103
Board Characteristic Support (BCS)	612	.042**	.542
NSE Listing	.548	.460	1.730
Existence of CRO	303	.793	.739
Type of Audit Firm	.176	.621	1.192
Bank Size	.200	.290	1.221
Bank Complexity	340	.339	.711
Constant	-1.215	.676	.297

Table 5.2.4Coefficients and Odd ratios of the Extended Model.

*Significant at p<0.10: **Significant at p<0.05: ***Significant at p<0.01.

5.7.9 Effect Size

In logistic regression, the measure of effect size is the odds ratios. The odds ratios indicate the extent to which one unit change in the predictor variable can bring a corresponding unit change in the dependent variable. The ratio of odds ratios of the predictor variables is the ratio of the importance of the predictors about the effect on the dependent variable's odds. Hence, the EXP (B) which translates to odds ratios can be understood in terms of the change in odds which equally measures the effect of the size of the change in the outcome variable. If the value is more than 1, then the odds of an outcome happening increases; if the number is less than 1, any increase in the predictor leads to a drop in the odds of the event happening.

5.8 Summary of Hypotheses on the Stage of ERM Implementation

Table 5.24 present the summary of hypotheses on the stage of ERM complete in place about the stage of ERM partially in place in the Nigerian banking sector from analysis of all the Models. A critical appraisal of the Table 5.24 indicates that the under
mentioned variables are positively significant. All the hypotheses for IAE, HRC and TMC are therefore supported. On the other hand, regulatory influence is positively significant in Model 1 but after that, become insignificant in subsequent Models. So, the hypothesis is partially backed up due to the discrepancy in results.

The moderating variable (BCS) positively moderates the relationships between the IAE and the stage of ERM implementation in the Nigerian banking sector. Thus, the hypothesis is confirmed. The BCS also negatively moderates the relationships between the TMC and the stage of ERM implementation in the banking sector which is contrary to expectation. Consequently, the hypothesis is rejected. The moderating variable failed to moderate the relationships between the remaining variables (RIS, auditor type, bank complexity, bank size, CRO and NSE listing) and the stage of ERM implementation. Thus, the hypotheses are rejected. Summary of the hypotheses tested and the control variables in the Model to achieve goodness of fit are reflected in Table 5.25

	Hynothesis	Sign Obtained	Support for
	itypoticsis		Hypothesis
	Relation between antecedents and the stage of		
	ERM implementation in the Nigerian banks		
H1	There is a positive effect of RIS on the stage of	Insignificant (+ve)	Partially
	ERM implementation		Supported ¹
H2	There is a positive effect of IAE on the stage of	Significant (+ve)	Supported
	ERM implementation		
Н3	There is a positive effect of HRC on the stage of	Significant (+ve)	Supported
	ERM implementation		
	There is a positive effect of TMC on the stage of	Insignificant (+ve)	Not Supported
H4	ERM implementation		
	There is a positive effect of BCS on the stage of		Not Supported

Table 5.2.5Summary of Hypotheses on the Stage of ERM Complete in Place

		Sign Obtained	Support for
	Hypotnesis		Hypothesis
	Relation between antecedents and the stage of		
	ERM implementation in the Nigerian banks		
	ERM implementation	Significant (-ve)	
	Control Variables		
	Type of Audit firm	Insignificant (+ve)	Not Supported
	Bank size	Insignificant (+ve)	Not Supported
	Bank complexity	Insignificant (-ve)	Not Supported
	Existence of CRO	Insignificant (+ve)	Not Supported
	NSE listing	Insignificant (+ve)	Not Supported
	The effect of moderating variable on the		
	antecedents of ERM implementation		
	There is a moderating effect of BCS on the		
Н5	relationship between RIS and the stage of ERM	Insignificant (+ve)	Not supported
	implementation		
	There is a moderating effect of BCS on the		
H6	relationship between IAE and the stage of ERM	Significant (+ve)	Supported
	implementation		
	There is a moderating effect of BCS on the		
H7	relationship between HRC and the stage of ERM	Insignificant (+ve)	Not Supported
	implementation Universitie Uta	ra Malaysia	
	There is a moderating effect of BCS on the		
H8	relationship between TMC and the stage of ERM	Significant (-ve)	Not Supported
	implementation		
	Moderating effect on Control Variables		
	There is a moderating effect of BCS on the		
	relationship between Audit firm and the stage of	Insignificant (-ve)	Not Supported
	ERM implementation		
	There is a moderating effect of BCS on the		
	relationship between Bank size and the stage of	Insignificant (-ve)	Not Supported
	ERM implementation		Not Supported
	There is a moderating effect of BCS on the		Not Supported
	relationship between Bank complexity and the	Insignificant (-ve)	Not Supported
	stage of ERM implementation		
	There is a moderating effect of BCS on the		
	relationship between existence of CRO and the	Insignificant (+ve)	Not Supported
	stage of ERM implementation		
	There is a moderating effect of BCS on the	Insignificant (+ve)	Not Supported

Hypothesis	Sign Obtained	Support for Hypothesis
Relation between antecedents and the stage of		
ERM implementation in the Nigerian banks		
relationship between NSE listing and the stage of		
ERM implementation		

5.9 Conclusion

This chapter discussed the descriptive statistics and critically examined the logistic regression results as reflected in the analysis. The stage of ERM implementation in the Nigerian banks was complete in place. However, few banks partially implemented it. To a great extent, there was remarkable compliance with the CBN mandate for ERM implementation in the Nigerian banks. The independent variables as contained in Model 1 and 2 were analysed and the finding indicated that all the variables (RIS, IAE HRC, and TMC) are statistically positively significant to the stage of ERM implementation. However, all the control variables are insignificant. The board characteristics only moderate the relationship between the internal audit effectiveness and the stage of ERM implementation.

CHAPTER SIX

SUMMARY AND CONCLUSION

6.1 Introduction

The previous chapter discussed the descriptive statistics and highlighted the analysis and findings from the logistic regression output. This chapter presents a conclusion and summary of the entire thesis. Specifically, the chapter is divided into nine sections. The first section presents recapitulation of the entire study and the discussion of the major findings. The implication of the study in terms of theoretical, empirical and methodological implication is discussed in the next sections. This is followed by the sections that highlight the summary of findings and the limitations. Similarly, the next section contained suggestions for future research while the last section drew the conclusion of the entire thesis.

6.2 Study Recapitulation

This study used descriptive statistics to answer research questions one and two, and invariably determine objective one and two before moving to the binary logistic regression analysis for addressing research questions three and four. The subsection in particular provides a summary of the findings in line with research objectives formulated to answer the research questions in chapter one. Based on the responses of 722 respondents in 361 branches and the respective head offices of the 21 commercial banks in Nigeria as at 31st December, 2012, a summary of the major findings of the study are stated below under each objective.

Objective One: To evaluate the current state of ERM practices in the Nigerian banking sector.

Descriptive statistics was employed to answer objective one in line with several studies (Colquitt *et al.*, 1999; Desender, 2007; Manab & Kassim, 2012). The current state of ERM practices consists of activities signaling the implementation intensity of ERM implementation in the Nigerian banks. The finding of the descriptive statistics with respect to the current focus of ERM effort reveals the following activities in the bank. However, majority of the respondents ranked four activities higher than others.

Those activities are considered as top priority of the bank with respect to current focus of risk management efforts. They include: the integration of ERM activities into day to day operations that have become a top priority to the bank; risk management considerations are explicitly factored into decision making; ERM integrates risk management with corporate strategic planning and a system that is put in place to promote risk optimization and opportunities.

The other activities rated lower by the respondents include ERM initiatives that are aligned with the bank objectives and strategies; existence of chief risk officer (CRO) in the majority of the banks and integrating ERM across all operational offices and bank business units. Most of these activities are centered in the head offices of the respective banks. All these signal the current efforts towards a higher level of ERM practices in the banks.

Likewise, the descriptive statistics result show that the banks used different frameworks to implement ERM in their respective banks. However, from the analysis, the finding shows that majority of the respondents indicated that their framework was developed from the existing risk management framework within the bank while some suggested that the framework was adopted from the Nigerian Code of Corporate Governance. On the other hand, an insignificant number stated that their banks adopted from ERM standards such as COSO, 2004; CAN/CSA-Q850-97 RM Guidelines for decision makers and Basel 11 Capital Accord. The issue of ERM framework has been identified as a major barrier to ERM implementation in majority of the Nigerian banks.

Another important finding of the descriptive statistics is the recognition of the motivating factors for the adoption of ERM in the Nigerian banks. The motivating factors identified by a majority of the respondents include compliance with regulatory demands; desire to protect and improve shareholder value; emerging corporate governance requirements and emerging best business practices. These motivating factors were rated higher than others by the respondents. However, they also identified external/internal auditor's influence and mandate from the Board of Directors as motivational factors for ERM adoption in addition to the above. Several studies (Colquitt *et al.*, 1999; Kleffner *et al.*, 2003; Manab & Kassim, 2012) support this outcome.

Lastly, the finding from the descriptive statistics with respect to areas of risk which present greatest potential threats and become a top priority to the banks show that information security risk; operational risk; credit risk and liquidity risk were ranked as serious potential threats that have become top priority to the banks more than reputational risk and market risk. The finding implies that the banks are exposed to all these risks, and serious attention must be paid to manage them properly. **Objective Two:** To determine the stage of ERM implementation in the Nigerian banking sector.

Descriptive statistics was also used to answer the objective two so as to determine the current stage of ERM implementation in the Nigerian banking sector. From the descriptive statistics, the finding suggests that the Nigerian banks have complete ERM in place because a bigger portion of the respondents confirmed this. This means that there is a high degree of conformity with the CBN directive on the carrying out of ERM in all the commercial banks. The CBN had issued a Guideline for the "Development of Risk Management Frameworks for Individual Risk Elements" by a circular No. (Ref BSD/DIR/CIR/VI/011) in (2011), which called for all banks operating in Nigeria to put in place adequate policies, which is sanctioned by the Board of Directors, for the management and mitigation of their risk exposures. Thus, this study is aimed at testing the extent of ERM implementation to ensure the degree of compliance with the CBN directive.

Universiti Utara Malaysia

This study is actually an extension of the studies by (Beasley *et al.*, 2005; Dabari & Saidin, 2014; Daud *et al.*, 2011; Desender, 2011; Fadun, 2013; Hoyt & Liebenberg, 2003; Kleffner *et al.*, 2003; , Pagach & Warr, 2007). The result of this survey is confirmed by the finding of a survey conducted in Malaysia by Soltanizadeh, Rasid, Golshan, Quoquab and Basiruddin (2014). The result has, therefore, answered the research question two of the subject matter which shows ERM completely in place by a greater majority of the Nigerian banks.

Objective Three: To examine the effect of the antecedents (regulatory influences; internal audit effectiveness; human resource competency and top

237

management commitment) on the stage of ERM implementation in the Nigerian banking sector.

The findings of this study were in line with the research objectives that were formulated based on the research questions developed from the statement of the problem. Logistic regression Model was employed to answer objective three in response to research question three. The study developed and tested the relationships between the regulatory influence, internal audit effectiveness, human resource competency, top management commitment and the stage of ERM implementation. Some control variables were introduced in line with previous studies. From the analysis of the logistic regression results, the initial Model did not fit the data well, and it was not correctly specified. Consequently, some of the goodness of fit and Model specification was not acceptable. However, an excellent goodness of fit of the Model was achieved by applying the expanded Model.

The third research question was addressed by three Models to achieve the objective. One hypothesis was developed for each of the antecedents for testing the relationship. The findings reveal that regulatory influence has an inconsistent result as it has positive effect on the stage of ERM implementation initially but became insignificant with additional variables. On the other hand, internal audit effectiveness, human resource competency and top management commitment have positive effect. Some control variables were introduced and the additional variables to achieve robustness and Model validity. However, all the control variables and the other variables were insignificant hence did not have effect on the stage of ERM implementation, and therefore, did not have any impact on the results. **Objective Four:** To investigate the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation in the Nigerian banking sector.

To achieve objective four, four hypotheses were developed to test the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation in the Nigerian banks. Based on the logistic regression result, the finding reveals that the board characteristics only has a moderating effect on the relationship between the internal audit effectiveness and the stage of ERM implementation while the regulatory influence, human resource competency and top management commitment did not have the moderating effect of board characteristics. Similarly, there is no moderating effect of board characteristics on the relationship between the stage of ERM implementation.

6.3 Discussion of Overall Research Findings

The study theoretically developed and empirically tested a theoretical Model of the antecedents of ERM implementation. The study also investigated the moderating effect of the board characteristics on the relationship between the antecedents and the stage of ERM implementation in the Nigerian banking sector to achieve objectives three and four. However, objectives one and two were achieved through descriptive statistics. Detailed discussions on each variable have been highlighted below.

6.3.1 The Current State of ERM Practices in the Nigerian Banking Sector

The current state of ERM practices is determined by four constructs which include current focus of risk management efforts that support the ERM implementation, development of ERM framework in the bank, motivations for the banks to implement ERM and areas of risks which present greatest potential threats and becomes a top priority to the bank. These constructs were not part of the theoretical framework for the research, but it is intended to support the dependent variable in order to achieve objective two in line with previous studies (Colquitt et 1., 1999; Kleffner et at., 2003; Manab *et al.*, 2010; PricewaterhouseCoopers, 2008; Roslan & Dahan, 2013; see Appendix 1 for the detailed questionnaire).

The results show that the current state of ERM practices is impressive because the respondents ranked some items as top priority to the bank. Thus: the integration of ERM activities into day to day operations; risk management considerations are explicitly factored into decision making; ERM integrates risk management with corporate strategic planning and a system that is put in place to promote risk optimization and opportunities. However, the respondents rated the other activies lower in terms of priority to the banks which are;ERM initiatives that are aligned with thebank objectives and strategies; existence of chief risk officer (CRO) in the majority of the banks and integrating ERM across all operational offices and bank businesses. Most of these activities are centered in the head offices of the respective banks. This is also in agreement with the findings of Manab *et al.* (2010) and Manab and Kassim (2012).

Similarly, the descriptive statistics reveal the various ERM frameworks used by the banks. Though, the respondents concurred that most of the available frameworks are being practiced by various banks as there is no standard framework adopted in Nigeria. Even, the famous COSO framework is open, and its adoption is not mandatory. Nevertheless, the growth of the framework is still a factor bearing on the

level of ERM implementation in that sense that some banks are not too sure of the best framework to assume. However, from the analysis, the finding shows that majority of the respondents indicated that their framework was developed from the existing risk management framework within the bank as well as Nigerian Code of Corporate Governance. On the other hand, an insignificant number stated that their banks adopted from ERM standards such as COSO, 2004; CAN/CSA-Q850-97 RM Guidelines for decision makers and Basel 11 Capital Accord.

Another important finding from the descriptive statistics is the motivating factors for ERM implementation in the Nigerian banks. The reasons given by the respondents include; (1) compliance with regulatory demands; (2) order from the Board of Directors; (3) desire to protect and improve shareholder value: (4) external and internal auditors influence; (5) emerging corporate governance requirements; (6) and emerging best business practices. However, the motivating factors identified by the respondents as the most influencing factors include; compliance with regulatory demands; desire to protect and improve shareholder value; emerging corporate governance requirements and emerging best business practices. These motivating factors were rated higher than others by the respondents.

Nonetheless, the respondents equally identified external/internal auditor's influence and mandate from the Board of Directors as significant motivating factors for ERM adoption as well in addition to the above. Several studies (Colquitt *et al.*, 1999; Kleffner *et al.*, 2003; Manab & Kassim, 2012) support this outcome. The last construct from the descriptive statistics which is very critical to the bankers is the area of risks that present potential threats and have become a top priority to the banks. These include; compliance risk, credit risk, information security risk, market risk, operational risk, reputational risk, liquidity risk. Conversely, the findingshows that information security risk; operational risk; credit risk and liquidity risk were rated and considered as critical potential threats that should become top priority to the bank more than reputational risk and market risk. The existence of such threats has greatly influenced the ERM implementation in the banking sector. This determination is supported by Owojori *et al.* (2011) and the Basel 11 Accords principles.

From the logistic results, there are plausible reasons why the commercial banks require implementing ERM in their operations because they are exposed to higher risks than most organizations. As a consequence, the banks tend to be quite larger institutions, mostly public listed companies, have more complex operations and processes, with considerably greater number of stakeholders, and are under strict public scrutiny than enterprises in other sectors. The majority of the respondents agreed that the banks are exposed to critical risks that present potential threats and have become top priority. The type of risks include; compliance risk, credit risk, information security risk, operational risk, liquidity risk and reputational risk. The existence of such threats has greatly influenced the implementation of ERM in the banking industries. This finding aligns with the findings of Owojori *et al.* (2011) that identified the various risks faced by the Nigerian banks and proposed an ERM process to handle them.

The risks identified among others include; credit default risk, credit risks, reputation risks, liquidity risk, legal risk, operational risk, customer satisfaction risk, information security risk and leadership risk. Other cases of risks are; regulatory risk, job risk, government policy risk, market risk, sovereign risk, competition risk, human resource risk and fraud risk.

This finding also corroborates the finding by Shafique *et al.* (2013) who led a survey utilizing a sample of 82 respondents examining the debate on the application of risk management practices of Islamic institutions versus traditional financial institutions in Pakistan. The study concludes that risk exposures in Islamic financial institutions are not different from the risks faced by the traditional financial institutions (Non-Islamic financial institutions).

By implication, the general risk exposures in Islamic and non-Islamic institutions are the same regardless of the context of the banks. Therefore, the activities of management must reflect the current state of ERM practices to address the emerging risks associated with globalization, diversification both locally or internationally. Others are; threats of terrorist activities, application of information technology, political and environmental realities and competition, and exploitation of opportunities for competitive advantage.

In the same vein, Perrin (2002) indicates that the application of an ERM framework, especially in the initial phase of implementation requires substantial financial backing from the Board of Directors and top management. The government has provided the regulatory mandate through the CBN and the NDIC, but the choice of a framework was voluntary (Amran & Akpan, 2014). This finding is in line with the results of

243

several surveys that find an ERM framework linked with ERM implementation (Colquitt *et al.*, 1999; Manab *et al.*, 2012; Perrin, 2002). Additionally, manab and Kassim (2012) find that ERM framework is associated with enhancing shareholder value.

Currently, there are structures that are used in different organisations and contexts that are adopted by the Nigerian banks. Even, the famous ISO 31000 and COSO frameworks are not clearly adopted and their acceptance is not compulsory. Growth of the framework is still a factor bearing on the stage of ERM implementation in the sense that some banks are not too sure of the best framework to adopt. This has created a dilemma for the Nigerian banks as regards the discrete choice of which framework to adopt. Fadun (2013) emphasized the need for the knowledge of ERM framework by the board and the management to enhance effective implementation.

There is a noticeable lack of awareness and understanding of the ERM framework and risk management despite its full implementation in the banks which was earlier highlighted by the CBN in the problem statement. Various studies (Kleffer *et al.*, 2003; Manab *et al.*, 2010; KPMG, 2006; PricewaterhouseCoopers, 2008) support the reasons given by the banks for the adoption of ERM.

The recent massive company failure, corporate scandals, and other external and internal factors were attributed to fraud and inappropriate application of risk management. Other reasons given include lack of confidence by investors and creditors (Paaple &Spekle, 2011; Desender, 2007). These were the main reasons that become strong motivating factors for strengthening and raising corporate governance

and implementing ERM throughout the enterprises (Kleffner *et al.*, 2003; Sobel & Reding, 2004). The finding has serious implication for the current state of ERM practices in the Nigerian banks. There is plausible evidence that the finding concurred with the earlier concern about a lack of knowledge of risk management activities across the various levels of the bank.

6.3.2 The Stage of ERM Implementation in the Nigerian Banking Sector

The research employed a survey method through cross-sectional data (questionnaire) administered to the staff of the Nigerian commercial banks both at the respective headquarters of the banks and their branches and area/zonal/regional offices across the country. This has contributed to the accomplishment of the purposes of the survey. In order to actually achieve objective two, further analysis on the current stage of ERM implementation in the Nigerian banking sector was performed in line with prior studies (Colquitt *et al.*, 1999; Kleffner *et al.*, 2003; Manab *et al.*, 2010). This study is an extension of the studies by Beasley *et al.* (2005), Desender, (2011), Kleffner *et al.* (2003), Önder and Ergin (2012), Paaple and Spekle (2011), and Pagach and Warr (2011). However, the relationships between the studies are being sustained by maintaining the stage of ERM implementation as the dependent variable while the regulatory influence as a predictor variable.

Enterprise risk management is a mechanism that is grounded on the agency theory, which may overcome the agency problem. This is because; the concept of ERM has become fundamental to corporate governance and is associated with the organization internal control and performance (Yatim, 2009). Therefore, from an agency theory viewpoint, the critical implication of corporate governance is that an appropriate

monitoring or control mechanisms must be created in protecting shareholder values from the conflict of interest of the management.

From the result of the descriptive statistics, the Nigerian banks have complete ERM in place because a larger percentage of the respondents confirmed this. This implies that there is a high level of compliance with the CBN directive on the implementation of ERM in all the commercial banks. This is supported by the finding of a study conducted in Malaysia by Soltanizadeh *et al.*(2014). The study reveals that about 80 percent of the respondents indicated that they have ERM complete in place in their establishments. The result has, therefore, answered the research question two of the subject matter which shows ERM completely in place by a greater majority of the Nigerian banks.

Nevertheless, the finding of the study is contrary to the result obtained by Razali *et al.* (2011) who found 29.7 percent had completely adopted ERM while 70.3 percent did not implement ERM. The study examined Malaysian public listed companies. Similarly, Daud *et al.* (2011) while considering the role of the quality Board of Directors in ERM practices in Malaysia find 43 percent adopted ERM fully while 57 percent partially adopted. The variance in the findings of the two studies was likely due to their approaches to corporate governance.

Additionally, in a survey conducted by Beasley *et al.* (2010) on the state of ERM practices, reveals that 44 percent of the respondents did not sustain a EWRM operation in place and they had no plans to carry out. However, only a small number (9 percent) of respondents agreed that they have a complete formal EWRM process.

Thus, it is not surprising to find the higher stage of ERM implementation in the Nigerian banks which is attributed to regulatory influence by the CBN.

This finding is supported by Beasley *et al.* (2005), Kleffner *et al.* (2003) and Paape and Spekle (2011) who find a higher level of ERM adoption in entities in financial industries. Nevertheless, many banks had already implemented the ERM long before the CBN mandate in line with international best practices and most probably due to Basel Accord principles. This is evident by their Annual reports and accounts posted on their websites in the last five years and the various comments of the respondents.

6.3.3 The Effect of Antecedents on the Stage of ERM Implementation in the Nigerian Banking Sector

From the logistic Regression analysis, the third research question is being addressed by three Models. Model 1 includes the new variables that are being tested for the very first time in this context and the most rated variable. These include internal audit effectiveness and human resource competency, and then regulatory influence. The apparent objective is to examine the relationship between these antecedents with the outcome variable to assess their impact on the variation in the dependent variable.

Model 2 is the one that contains all the antecedents in the framework of the study, which include; regulatory influences; internal audit effectiveness; human resource competency and top management commitment. This is the master Model for examining the hypotheses developed to determine the effect of the antecedents on the stage of ERM implementation in the Nigerian banking sector. Lastly, Model 3 is the expanded (robustness Model) which incorporates all the antecedents (regulatory influences; internal audit effectiveness; human resource competency and top

management commitment), the control variables (bank size, audit type, bank complexity, CRO and NSE listing). However, one hypothesis is developed for each of the antecedents. Each of the four hypotheses and the findings are discussed below.

6.3.3.1 The Effect of Regulatory Influence on the Stage of ERM Implementation

Research objective three was formed to provide answer to research question three: thus; to examine the effect of the antecedents on the stage of ERM implementation in the Nigerian banking sector. The antecedents include regulatory influence, internal audit effectiveness, human resource competency, and top management commitment. One hypothesis was developed for each of the antecedents for testing the effect. To this end, the first hypothesis states that "There is a positive effect of regulatory influence on the stage of ERM implementation.

This assumption was tested through logistic regression Model. The result shows inconsistent finding because it had positive effect in Model 1 with only 3 variables but subsequently became insignificant in the other Models. The variable under consideration has inconsistent findings in the literature. For example, Collier, Berry and Burke (2007) note that the corporate governance code is a crucial motivator for risk management implementation.

Code of Corporate Governance requires the Board of Directors to maintain a sound system of risk management and internal control to protect the shareholders interest and enhance their share value. The finding is coherent with the results of Paape and Spekle (2011). The authors examined the extent of ERM implementation and the factors associated with the stage of implementation in the Netherlands and find a positive effect of regulatory environment on the degree of ERM implementation.

The result of this study is therefore in partial agreement with these findings because it had a positive effect in Model 1 with fewer variables but was insignificant in subsequent Models. However, the subsequent finding is consistent with the outcomes of the study by Kleffner *et al.* (2003) that finds no significant difference in the Canadian firms that are listed on TSE and those not listed.

Given the stringent requirement of corporate governance (CBN Mandate), the finding implies that the implementation of ERM in the Nigerian banks may be viewed mainly as a compliance exercise. It is not surprising; therefore, that management action to reduce the likelihood of risk through compliance with the CBN Code of Corporate Governance by the implementation of ERM in the banking sector is ranked highest by the respondents.

The logistic regression result further demonstrated that ERM deployment was motivated by the institutional response to a clarion call for more efficient corporate governance and regulatory-based risk management supervision. This reflects an enhancement of shareholder value and economic opportunity. This is also in line with the agency theory that supports active monitoring by the Board of Directors and other stakeholders to protect the interests of all stakeholders from the conflict of interest of the management. To provide further explanation, there is need to examine the relevance of the institutional theory to explaining the antecedents of ERM implementation especially in the light of regulatory influence. This provides support to the underpinning theory that is the agency theory. The basic idea of the theory is that there are many structures, programs and practices in organizations that attain legitimacy through the social construction (Meyer & Rowan, 1977).

This shows that not all ERM implementation programs in the Nigerian banks emanated from board decision process but largely compliance with the institutional mandate. This is created by social construction processes in which external entities influence the adoption and implementation of ERM practices that has attained the sense of legitimacy. Nevertheless, the problem of the regulatory regime has become critical to banking operations as it exerts much pressure to ensure compliance with the rules and regulations by the banks and creates unnecessary costs (Arnold *et al.*, 2011). To enhance effective banking supervision, there is need to introduce a risk-based regulation across all banks irrespective of their status (Ajibo, 2015).

6.3.3.2 The Effect of Internal Audit Effectiveness on the Stage of ERM Implementation

With respect to the influence of the antecedents of ERM implementation, the second research hypothesis was proposed. Thus; there is a positive effect of internal audit effectiveness on the stage of ERM implementation". Using the logistic regression Model result, the hypothesis is positively significant in all the Models and, therefore, is supported. This finding is in line with the study by Ussahawanitchakit and Intakhan

(2011) that find internal audit professionalism and independence positively significant to internal audit effectiveness.

Similarly, Beasley (2006) find that ERM has the greatest impact on internal audit's functions. Additionally, Badara and Saidin (2014) while examining the empirical evidence of antecedents of internal audit effectiveness in Nigerian local government, find a positive association between risk management and internal audit effectiveness. Several studies (Cohen & Sayag, 2010; Arena & Azzone. 2009) find that the internal audit effectiveness has an impact on organizational performance, hence ERM implementation.

The positive effect of the internal audit effectiveness on the stage of ERM implementation in the Nigerian banking sector is a landmark contribution of this study since it is a newly introduced variable and being tested for the first time in the study. The result is also in agreement with the dynamic roles of internal audit functions in the ERM implementation. Moreover, the effect is likewise consistent with agency theory. Fan and Wong (2005) indicate that auditors play a monitoring and bonding role so as to mitigate the agency conflict between shareholders, other investors, and the management. Sullivan (2000) who highlights the importance of auditing in governance is in support of this finding.

Thus, auditing is an important governance mechanism through which the shareholders and other stakeholders seek to monitor the top management.

Niemi (2005) indicated that the requirement for audit services originate from the legal environment such as Code of Corporate Governance and taxation laws.

251

Fadzil, Haron, and Jantan (2006) maintain that internal auditors understand and appreciate the operations of the organization. They also act as a management consultant to lessen the level of risks and assist in managing the agency conflict more efficiently and effectively. Badara and Saidin (2013) opined that the internal auditor should have the requisite qualification and technical knowledge to perform adequately analytical jobs and facilitation skills for the execution of value-added roles. This emphasizes the importance of auditor's competency especially as regards advisory and consulting roles in the implementation of ERM.

6.3.3.3 The Effect of Human Resource Competency on the Stage of ERM Implementation

In consideration of objective three of this research, the third antecedent was tested using the logistic regression Model, which is human resource competency. The third research hypothesis was formulated to achieve the goal. Thus "there is a positive effect of human resource competency on the stage of ERM implementation". This particular variable was confirmed to have positive effect in all the Models on the stage of ERM implementation in the Nigerian banking sector; therefore, the hypothesis is supported. This is also a new variable being tested for the first time.

Human resource competency refers to the level of skill in terms of education and training of the Board of Directors, top management and cross functional staff of the bank. Current trends in the application of human resource management place a high value on the human resource competency, particularly its role in improving effective job performance, which enhances organizational competitiveness (Cardy & Selvarajan, 2006).Human resource competencies are the ethics, knowledge, and skills

of human resource professionals.Human resource competency has been linked with better turnover, productivity, financial returns, survival, and firm value (Huselid1995; Beltrán-Martín, Roca-Puig, Escrig-Tena, & Bou-Llusar, 2008).

The finding with respect to human resource competency is not surprising because the Central Bank of Nigeria (CBN, 2012) maintained that risk management is still at its rudimentary level in the Nigerian banks that are facing a lot of challenges. These challenges include inadequate knowledge of risk management by members of the board of many banks and lack of professionals. Others are lack of risk training and teaching. There is also a lack of a framework that supports the development of skilled and capable workers in the industry (CBN, 2011; 2012).

Human resource competency entails the level of awareness, instructions and training and capacity building of the bank's personnel. Others are training of risk management staff about risk management organizations, tools, its routines and applications (Yaraghi & Langhe, 2011). Several studies (Al-Twaijry *et al.*, 2004; Schanfield, & Helming, 2012) examined human resource competency in terms of training and development. While some looked at it from experience and knowledge perspective, and others studied it in the light of education and training. However, this study examined it in terms of human resource competency that involves all the other elements.

From the position of the agency theory, a contractual relationship exists between an employer (principal) on one hand and an employee (agent) on the other. This contractual relationship may experience some difficulties to the extent that the employee and the worker have different goals. When the company is monitoring the employee's action, it becomes difficult because the employee will resist due to differing goals or interests. In the organization too, everybody is a stakeholder including the employees, and their actions are subject to monitoring by the principal.

The level of human resource competency of the bank will facilitate the implementation of risk management practices and provide the necessary capacity to cope with the complexity of the business world. The board members and the senior management have the ability and technical knowledge to identify, assess, monitor, and control all risks associated with the bank operations.

6.3.3.4 The Effect of Top Management Commitment on the Stage of ERM Implementation.
Another objective of this research is to examine the effect of top management commitment on the stage of ERM implementation. A hypothesis was proposed to achieve this aim empirically. The hypothesis states "there is a positive effect of top management commitment on the stage of ERM implementation." Based on the logistic regression analysis, the hypothesis has positive effect on the stage of ERM implementation in the Nigerian banking sector as expected;hence, the hypothesis is supported. The commitment of top management strongly influences the level of ERM deployment in the Nigerian banks.

This finding is in consonant with the results of several studies (Altuntas *et al.*, 2011; Ciocoiu *et al.*, 2009; Fadun, 2013; Manab & Kassim, 2012; Walker *et al.*, 2002) that examine the influence of top of management on the extent of ERM implementation. Beasley *et al.* (2005) argue that top management support and commitment are very necessary and relevant for the successful implementation of the ERM. Bowling and Rieger (2005) suggest that without the commitment, support, and capabilities of top management, the ERM program may fail to succeed. Thus, the need for a top-down approach and bottom up system of communication among the different levels of the bank becomes imperative.

The finding is also in agreement with the agency theory because the primary agency relationship in the bank is between the shareholders and the bank management, and shareholders and the debt holders. In most cases, conflict of interest would suffice because of the divergence of interests pursued by each group. In the bank setting, the bank hires top management and employees to, in part, exploit economic of specialization. They rather pursue their stake in terms of the compensation paid to them for the service rendered in the form of agency cost or stock bonuses. This natural process has led the principal to incur residual losses in the form of opportunity cost that arises as a consequence of differences in outcome (Jensen & Meckling, 1976).

6.3.4 The Effect of Control Variables on the Stage of ERM Implementation

From the analysis of the logistic regression output, five control variables were introduced to control for other factors that have not been included in the Model, holding other factors constant. These were bank size, proxied by the total assets, auditor type, which is a dummy variable, if big four 1, if otherwise, 0. Others are bank complexity proxied by the number of branches, existence of CRO measured as a dummy variable and the NSE listing which is also a dummy variable. This is in line with several studies (Desender, 2007; Liebenberg &Hoyt, 2003; Paape &Spekle, 2011; Pagach &Warr, 2007) that tested control variables in their Models. Nevertheless, all the control variables introduced in the study have an insignificant resultand therefore, have no effect on the stage of ERM implementation in the Nigerian banking sector. This is unexpected, as most of the variables were found to have a significant positive effect on the stage of ERM implementation in the literature. Mixed findings were also recorded in some instances.

Auditor type is a dummy variable and if Big 4 1, otherwise or non-big four 0. This has an insignificant effect on the stage of ERM implementation which is inconsistent with previous research. Several studies (Bealsey *et al.*, 2005; Desender, 2007; Kleffner *et al.*, 2003; Paape & Spekle, 2011) find a significant relation between the auditor type and the extent of ERM implementation. The implication of the finding is that both the big4 and nonbig4 are still being engaged by the Nigerian banks. This implies that some banks seemed to be satisfied with the quality and services provided by the local auditors and do not mind engaging them, yet some of the banks prefer high-quality auditors such as a big4 to ensure international best practices.

The complexity of operations which is proxied by the number of branches is also insignificant, and therefore, does not have effect on the stage of ERM implementation in the Nigerian banks. This is surprising in the sense that broad and complex operations require ERM practices to mitigate and manage risk exposures. It is broadly recognized that previous studies have revealed that the entity size mostly reflects organizational complexity. Yatim (2010) finds that there is a positive relation between firm size, complexity of operations and the use of big four auditors with the establishment of the risk management committee.

Similarly, Pagach and Warr (2007) and Gordon *et al.* (2009) find firm complexity (Segments) significantly related to hiring of CRO and ERM-firm performance respectively. However, the findings seemed to be in line with the fact that the implementation of ERM in the Nigerian banks was purely a matter of compliance with CBN mandate. In the same vein, bank size was measured by the logarithm of total assets as at 2012. The effect of the predictor on the stage of ERM implementation is also insignificant. This is surprising and contrary to expectation because the bigger the organization, the more complex it is and, therefore, the more likely the need for ERM implementation. This is again in contrast with several studies which found organizational size positively related to ERM. Various studies (Beasley *et al.*, 2005; Pagach &Warr, 2007; Walker *et al.*, 2002) have established significant relationships between the firm size and ERM implementation.

Further analysis of the control variables such as the existence of chief risk officer (CRO) and the NSE listing of the banks did not make any impact on the dependent variable as they were all statistically insignificant. These variables have also been empirically examined in the literature (Beasley *et al.*, 2005; Kleffner *et al.*, 2003; Paape & Spekle, 2011; Yatim, 2011) and were found statistically significant. From the finding of the study, there is a plausible evidence that the implementation of ERM in the Nigerian banking sector was greatly influenced by the mandate of the CBN despite the high ranking accorded to most of these variables by the respondents. They attracted high percentages in the descriptive statistics but failed to contribute to the

dependent variable due to socio-cultural or institutional factors which may be peculiar to the Nigerian environment

The finding of this work is not unconnected with the authorisation granted by the CBN for all money deposit banks to establish a robust risk management arrangement in place to mitigate and manage all risks. Thus; the implementation of ERM in the Nigerian banks is conclusively in compliance with regulatory demand through the Code of Corporate Governance issued by the CBN. The outcome establishes that the Nigerian banks have solid and enough capital bases to meet up with the challenges of the recent bank consolidation (CBN, 2006; Onaolapo, 2008, Yauri, Musa,& Kaoje, 2012). It is generally recognised that the capital adequacy has enabled Nigerian banks transact beyond borders and maintain a capital adequacy ratio (CAR) of at least 15 percent, 5 percent over and above the minimum requirement by the CBN (IMF, 2013).

Universiti Utara Malaysia

6.3.5 A Moderating Effect of Board Characteristics on the Antecedents and the Stage of ERM Implementation

The fourth research question is "what is the moderating effect of the board characteristics on the relationship between the antecedents (regulatory influence support; internal audit effectiveness; human resource competency; top management support and the stage of ERM implementation"? A research objective is then formulated in response to the above. Thus; the objective is; "to investigate the moderating effect of the board characteristics on the relationship between the antecedents (RIS, IAE, HRC and TMC) and the stage of ERM implementation in the Nigerian banking sector". One hypothesis was developed for each variable to achieve these objectives, which are hereby discussed.

In order to achieve objective four, hypothesis 1 is "board characteristics have a moderating effect on the relationship between regulatory influence and the stage of ERM implementation in the Nigerian banking sector". The results indicate that board characteristics do not have a moderating effect on the relationship between the regulatory influence and the stage of ERM implementation. While examining the logistic regression result with respect to the Model, which included the board characteristics as a predictor, there is a negative significant relationship.

Therefore, the result is not surprising given that the board characteristic is not positively significant in all the Models and in the logistic regression result of the moderating effect, regulatory influence was also insignificant. This could be as a result of the regulatory environment influence on the implementation on ERM. The regulatory authority greatly influences compliance with Code of Corporate Governance rather than Board of Directors.

Indeed, the Code of Corporate Governance was issued by the CBN which is the regulatory authority for all banks and it is mandatory for all banks to comply with the requirements. This means that the higher the oversight activities (monitoring) by the Board of Directors, the lower the likelihood of ERM implementation in the banks.

The finding seemed to describe the correct position of the Nigerian banks before the consolidation in 2005 where CBN sacked the board of some banks. Some board members and top management were tried and imprisoned on the ground of abuse of office and corruption (CBN, 2006; Owojori *et al.*, 2011; Soludo, 2004). However, most of the board members were not chosen on merit, merely founded on ethnicity,

religious persuasion or political association (CBN, 2006; Vanguard Newspaper, 20th February, 2014). Consequently, they were inexperienced and lacked enough knowledge of the banking operations (CBN, 2011; 2012).

Furthermore, to determine whether board characteristics have a moderating effect on the relationship between internal audit effectiveness and the stage of ERM implementation in the Nigerian banking sector, the second hypothesis was formed. Hence; "board characteristics have a moderating effect on the relationship between internal audit effectiveness and the stage of ERM implementation in the banking sector". As anticipated, there is a moderating effect of board characteristics on the relationship between internal audit effectiveness and the stage of ERM implementation in the Nigerian banks.

From the logistic regression analysis, internal audit effectiveness has a significant positive effect on the stage of ERM implementation. Consequently, the finding is not surprising. The higher the board oversight activities, the greater the likelihood of internal audit roles with respect to ERM practices. This implies that the greater the diversity in the board in terms of gender, independence, equity ownership, board size and board educational qualification, the higher the degree of performance in terms of monitoring as well as putting reliance on the internal audit functions. This underpins the study by Beasley *et al.* (2006) that discovered ERM practices greatly impact on internal audit functions if the firms' ERM is completely in place, just as in this study.

Additionally, another hypothesis was formulated to test whether board characteristics has a moderating effect on the relationship between human resource competency and

the stage of ERM implementation. Contrary to expectation, the finding shows that board characteristics do not have a moderating effect on the relationship between human resource competency and the stage of ERM implementation because it is insignificant. This did not come as a surprise because human resource competency was not significant in the logistic regression results after running the moderating effect. This implies that board characteristics do not impact on the relationship between human resource competency and the stage of ERM implementation.

In the end, the last hypothesis was developed in order to accomplish objective four. The hypothesis is "board characteristics have a moderating effect on the relationship between top management commitment and the stage of ERM implementation in the banking sector". The product of the logistic regression result shows the moderating effect of strong negative significance of the board characteristics on the relationship between top management commitment and the stage of ERM implementation in the Nigerian banking sector. This is least expected because the Board of Directors supposed to supervise the actions of the management on behalf of the stockholders. Consequently, board diversity in terms of size, independence, equity ownership, gender and educational qualification should enhance their monitoring capability to do effective oversight activities.

Lasfer (2006) finds a strong negative effect on the relationship between the level of managerial ownership and corporate governance. This implies that managers through their ownership choose a Board of Directors that is unlikely to monitor them. Consequently, this finding implies that the effectiveness of the board as an internal corporate governance monitoring mechanism is in doubt.

Similarly, Waweru and Kisaka (2015) find a negative relationship between board independence and the level of ERM implementation of companies in Kenya. Linked to this, Golshan and Rasid (2012) opined that the Board of Directors in most cases, lack knowledge of risk management practices, thus, their monitoring capacity is restricted. In like manner, another study by Li (2012) that examine the moderating effect of the Board of Directors and managerial stock ownership on the relationship between research and development (R &D) investment and firm performance in China, finds a negative moderating effect between the board of directors and the board meeting, management ownership and board ownership. The finding further suggests that there is no moderating effect of the board size on the relationship between R&D and firm performance. Additionally, Ng, Chong and Ismail (2012) find negative association between board characteristics, (size and committee independence) and underwriting risk among the Malaysia's insurance companies.

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The significance of this outcome demonstrates that the Board of Directors in the Nigerian banks has a passive role in corporate governance, particularly ERM implementation. The conclusion of the finding supports Jensen (1993) argument that the character of corporate boards come to be more and more important during periods of crises, if shareholders' interests are at stake and, for instance, performance declines. The Board of Directors are likely to become more active to meet up with these challenges rather than averting them in advance.

There are plausible evidences on the weaknesses of the Nigerian Board of Directors. Akpan and Amran (2014) find that the incompetence of the board was the major grounds for failure of corporate governance in Nigeria. Okobi (2011) identified the immediate and distant causes of the corporate governance failure in Nigeria, as poor corporate governance culture as a consequence of poor management that led to fraud, by top management and the board members. This was further underpinned by the then, CBN Governor, Sanusi (2012) who noted that the crisis in the Nigerian banking industry was traced to some key elements, among which are; power tussles among board members, inconsistent execution of good governance philosophies, ineffective board oversight, weak internal control, weak regulatory oversight, ignoring risk management policies and lack of transparency, hence, the negative results with regard to board characteristics.

Similarly, control variables were introduced to control for other factors that have not been included in the Models, ceteris paribus. The logistic regression output shows an insignificant moderating effect of board characteristics on the relationship between the control variables (auditor type, bank complexity, bank size, CRO and NSE listing) and the stage of ERM implementation in the Nigerian banking sector. The finding is not surprising because all the control variables are insignificant in all the Models and the board characteristics have been consistently negative in the whole Models. Conclusively, board characteristics do not have a moderate effect on the relationship between auditor type, bank complexity, bank size, CRO, NSE listing and the stage of ERM implementation in the Nigerian banks.

6.4 Summary of Key Findings

This study examined the current state of ERM practices and also determined the stage of ERM implementation in the Nigerian banking sector. The study further examined the effect of the antecedents (regulatory influence, internal audit effectiveness, human resource competency and top management commitment) on the implementation of ERM in the Nigerian banking sector. Similarly, it also investigated the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation.

A five-point Likert-scale instrument was adapted from various sources after testing the reliability and validity. Thus; all the independent variables were continuous on 5 pointLikert-scale while the dependent variable is a dichotomous variable. The Logistic regression Model is adopted because the stage of ERM implementation, the dependent variable is a dichotomous variable.

To this end, a pilot test was conducted using 73 respondents of the commercial bank branches in Yola and Jalingo, the state capitals of Adamawa and Taraba states respectively. These were not part of the main study areas. The questionnaire was preexamined by nine experts, including five faculty members and four practitioners to determine the content validity while the face validity involved a focus group of nine bankers in Yola. The results were further subjected to PCA of the independent variables, multicollinearity and correlation tests for reliability and validity tests. Several tests were also taken to determine the goodness of fit of the models to the data and its correct specification. These were all achieved. The outcome of the research demonstrated some interesting findings.

To the best of the researcher's knowledge, this survey is the first known attempt made to examine empirically the antecedents that influence the implementation of ERM among the Nigerian banks with this set of variables. A moderating variable was also introduced in the Model. Following a satisfactory multivariate data analysis and the confirmation of the hypotheses using logistic regression Model, the significant findings of the study are summarised in the following sections.

The findings reveals that the current state of ERM practices in the Nigerian banks is evident by the current focus of ERM efforts, areas of risks that present potential threats to the bank, motivations for ERM adoption and the development of ERM framework which signal the implementation of ERM activities in the Nigerian banks. This reflects high level of ERM practices in the Nigerian banks.

The result also indicates that there was an ERM complete in place in most of the Nigerian banks while an insignificant number reported ERM partial in place. The result further revealed that some banks had already implemented ERM before the CBN mandate for ERM implementation in the Nigerian banks. Similarly, the result also demonstrated that; internal audit effectiveness, human resource competency and top management commitment significant effect on the stage of ERM implementation in the Nigerian banks. Nevertheless, regulatory authority partially supports ERM deployment, as it makes a more significant contribution if stands alone but becomes weaker if other variables are added.

Board characteristics have a moderating effect on the relationship between the internal audit effectiveness and the stage of ERM implementation, but do not have a moderating effect on the relationship between regulatory support, human resource competency and top management commitment, and the stage of ERM implementation. In fact, it has a negative moderating effect on the relationship

between top management commitment and the stage of ERM implementation. All the control variables (bank size, auditor type, bank complexity, existence of CRO and NSE listing) included in the Models did not have any effect on the stage of ERM deployment and were not statistically significant as well.

However, there is plausible evidence that the underpinning theory which is the agency theory substantially provided an explanation for the impact of the antecedents on the stage of ERM implementation. The finding also discovered that the agency theory was not sufficient to provide the necessary explanation for regulatory influence support but needs to be supported by the institutional theory in order to properly explain the rationale behind the regulatory influence for the implementation of ERM processes. The Central Bank of Nigeria (CBN), being the regulatory authority is a product of construction of institutional structures and cognitive operations which is not a party to the agency relationship between the bank (Shareholders) and the management. Invariably, the CBN has become the most efficient monitoring mechanism by coercion, which is generally accepted.

Finally, the finding from the remarks of the respondents reflects a serious lack of knowledge of the ERM practices, as most of the bank operations are centered in the respective headquarters of the banks. The respondents, particularly at the branch level could not distinguish between ERM activities and internal control activities. There was no risk manager or risk management officer at the branch level to co-ordinate the ERM activities. Thus; a clarion call is made to the regulatory authorities for the introduction of risk based supervision in all the Nigerian banks and the introduction of ERM in all the banks irrespective of their status.
6.5 Implication of the Study

The research has offered a new knowledge and understanding of the antecedents of ERM implementation. The findings of this study have significant theoretical, empirical and managerial/ practical implications in the area of ERM implementation as discussed in the following areas:

6.5.1 Managerial/Practical Implications

The result of this study has created a new knowledge about the current state of ERM practices and the stage of ERM implementation in the Nigerian banks. It has also created a new knowledge on the antecedents influencing ERM implementation. Indeed, the study has providedinsightful results for the academia, industry, and regulators. The study, in particular, is crucial to the Nigerian banks and their stakeholders in many ways.

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For the banks that are looking for ways of reducing monitoring costs and enhancing bank performance, particularly, the Board of Directors, top management and the internal auditors should consider the findings of the current study useful and necessary. The findings suggest that ERM is fully enforced in the Nigerian banks as a result of regulatory submission. However, there is still low level of knowledge and awareness of ERM among the stakeholders, particularly the Board of Directors and the cross functional staff of the bank. The understanding and knowledge of ERM, what it is, its impact and benefits across the bank and the entire stakeholders will facilitate the efficient execution of the ERM systems which will enhance shareholder value. This will assist to breach the gap and enhance monitoring mechanismas noted by Smith (Smith, reprinted in 2008) that:

"The directors of companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private co-partner frequently watch over their own. Negligence and profusion, therefore, must always prevail, more or less in the management of the affairs of such a company". (p. 700)

The adoption of top down and bottom up communication system across the banking segments will ensure effective communication and awareness of ERM process. This is potentially possible through rigorous training and teaching of all the stakeholders to raise their competency level for maximum productivity. The accomplishment of this will significantly decrease the agency cost as postulated by the agency theory because the Board of Directors and the internal auditors will perform their monitoring role more efficiently and effectively. On the other hand, the top management and the cross functional staff will strive harder to earn higher incentives.

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Daud, Yazid, and Hussin, (2010) suggest that managers and directors have implicit obligation to ensure that firms are run to meet the interests of shareholders. This is affirmed by Mike (2005) that Risk Management can actually push the performance of the firm in order to enhance shareholders' value. The agency theory is however related to the focus of this study in view of the fact that ERM can help an organization to achieve its business objectives and ultimately maximize shareholders' value (Bowen *et al.*, 2006; Nocco & Stulz, 2006). Companies that undertake a risk-based program for shareholder value management naturally can add more to shareholders' value (Bowen *et al.*, 2006). On the whole, risk management adds value to individual companies and also supports the overall economic growth by lowering the cost of capital and reducing the uncertainty of commercial activities. Shenkir and Walker

(2006) stated that according to the Committee of Sponsoring Organizations of the Treadway Commission (COSO), the ERM model requires executive management commitment for its rigorous implementation. It is strongly suggested that leadership of companies should be eager to make a commitment to ERM because they are ultimately responsible for the overall protection, creation and enhancement of shareholders' value.

Secondly, the findings of the research have significance for the CBN to re-assess its supervisory function with the perspective of strengthening the ERM process in the commercial banks to ensure full and efficient implementation of ERM in all the Nigerian banks irrespective of their status. The finding will enable the regulatory authority to constantly review its policies and formulate new policies to meet up with the new global challenges. For example, the CBN should direct the banks to create the position of risk manager at every operational level of the bank across all segments to coordinate and monitor the activities of ERM practices. This is possible as it is currently being practiced in the case of internal auditors and operation managers in the Nigerian banks.

The finding seemed to describe the correct position of the Nigerian banks before the consolidation in 2005 where CBN sacked the Board pf Directors of some banks while other members and top management were tried and imprisoned on the ground of abuse of office and corruption (CBN, 2006; Okobi, 2011; Owojori *et al.*, 2011 Soludo, 2004). Most of the board members were not chosen on merit, but based on ethnicity, religious persuasion or political association (CBN, 2006; Vanguard Newspaper, 20th February, 2014). Therefore, they were inexperienced and lacked

adequate knowledge of the banking operations and ERM process (CBN, 2011 & 2012).

The study further revealed that regulators in many nations, including the United States, the United Kingdom, Australia, Kenya, South Africa and Malaysia, are pressing firms for improved risk reporting and more holistic and enterprise wide risk management practices. This means that the board should accept responsibility for stewardship, including risk management, internal control and strategic planning. This implies accountability and transparency in risk reporting and management.

Thus, this survey has provided evidence concerning the current state of ERM practices in the Nigerian banks and the impact of the CBN Code of corporate governance on bank risk management schemes. Even though, ERM is still not practiced on an enterprise-wide basis in the country, there is plausible evidence that even those other banks and publicly listed companies that have not adopted ERM are considering a more integrated approach to ERM practices than in the past.

Therefore, the regulators and the Board of Directors conducting an oversight function should ensure that ERM is thoroughly entrenched in the operations of those organisations that are yet to carry out or considering implementing ERM. To this end, the need of revisiting the relevant Codes of corporate governance with a position of reviewing the provisions as regards risk management procedure has become imperative. The significance of this outcome demonstrates that the Board of Directors in the Nigerian banks has a passive part in corporate governance, particularly ERM implementation. The Board of Directors are likely to become more active to meet up with these challenges rather than averting them in advance. The action by the CBN to sack the Board of Directors further corroborates this finding. Therefore, the board should not be seen to have engaged in fraudulent practices like the case of Enron and Lehman Brothers.

The top management is the key factor in the implementation of ERM systems. Support and commitment of the top management are, therefore, necessary and closely associated with the level of skill, awareness, expertise and knowledge in ERM process. This will assist in developing a risk culture across the entire bank and ensure effective implementation. Most importantly, risk management adds value to individual companies and also supports die overall economic growth by lowering the cost of capital and reducing the uncertainty of commercial activities. Shenkir and Walker (2006) stated that according to the Committee of Sponsoring Organizations of the Treadway Commission (COSO), the ERM model requires executive management commitment for its rigorous implementation.

An ERM that is fully implemented can offer several opportunities for internal audit functions. Thus; the finding of this study underscores the significance of top management and the board level support for an internal audit function in ERM deployment. This means that internal audit involvement in the banking sector is in accordance with the regulatory call for effective ERM implementation in the banks issued by the international banking community under the umbrella of the Basel Accord.

Hence, the internal audit function is best placed to champion such enterprise wide initiatives (Whitfield, 2004). The positive moderating effect of board characteristics on the relationship between the internal audit effectiveness and the stage of ERM implementation signifies the dynamic role of the internal audit function in ERM adoption and it is particularly relevant to internal audit professionals.

Lastly, the inconsistencies and contradictions in some results as observed between this work and the prior studies in other nations such as US, UK, Malaysia and some developing countries like Kenya and Turkey, but at different time frame support and contribute to the current debate on corporate governance. The findings concord with the claim of Haniffa and Hudaib (2006) that governance structures that are planned to encourage good corporate governance cannot be blindly adopted without considering the unique cultural peculiarities and the complexity of the business environment coupled with the current economic realities of that country.

The results from this research provide an appreciation of relationship between board characteristics and bank performance, specifically ERM adoption and enhancement of shareholder value. Acquiring such evidence will enable firms to gain the benefits of a strategic board. As the costs of meeting governance requirements are considerable, the outcome of this study has the potential to benefit the businesses, policy makers, professional bodies, academics and the wider community in terms of policy formulation, implementation and evaluation.

Finally, the research contributes to the existing literature on risk management by developing a model that could enhance the implementation of ERM practices in the Nigerian banking sector. The introduction of some new independent variables such as internal audit effectiveness, human resource competency and the evaluation of the role of the Board of Directors and the moderating effect on the antecedents for ERM adoption is a significant contribution to the body of knowledge. Thus, the proposed theoretical framework for this study may be a useful tool for academics to understand these antecedents in the future and improve on them while the practioners may adopt it as a standard of best practices in the banking sector. To achieve the above, the following specific objectives of the study are stated. Enterprise Risk Management will resolve the agency problem between stockholders (principal) and managers (agent). The managers consider all necessary measures to mitigate all risks that impede the accomplishment of the organization's objective that will continuously improve performance and enhance shareholder value.

Fama and Jensen (1983) stated that, since the board was mandated to supervise the organization they were required to have the knowledge which would allow them to carry out their roles perfectly. According to Alzoubi and Selamat (2012) and Carcello *et al.*'s (2002) studies revealed that, higher level of board expertise resulted in a greater level of motivation for monitoring the organization's operations. Agency theory predicts that proper corporate governance mechanisms such as the BOD can reduce agency problems and may help to ensure appropriate level of ERM practices since they curtail managers' propensity to pursue inefficient strategies and high risk ventures (Jensen and Meckling, 1976). Moreover, proper corporate governance

mechanisms can reduce information asymmetry, supervise the managers, and control managerial opportunistic behaviours, thus ensuring that the ERM practices are performed according to the general understanding of maximizing shareholder interest (Hill and Snell, 1988; Wright *et al.*, 2002). Thus; board characteristics may affects the implementation of ERM in the Nigerian banks.

6.5.2 Theoretical Implications

The overall findings suggest that there is a complete ERM in place in the majority of the Nigerian banks, which was rated as 89 percent by the respondents. There is a high degree of conformity with the CBN directive on the implementation of ERM in all the commercial banks. The result is corroborated by the finding of a survey conducted in Malaysia by Soltanizadeh *et al.* (2014). The study reveals that about 80 percent of the respondents indicate that they have ERM complete in place in their establishments.

The study finds that the following antecedents; regulatory influence support, internal audit effectiveness, human resource competency and top management significantly influence the implementation of ERM in the Nigerian banks. The regulatory influence has made an important contribution to ERM implementation but with inconsistent results because it has a strong positive influence when it stands alone but diminishes with additional variables to the Model. There was full compliance with the CBN mandate on ERM implementation. The result is not surprising because there are inconsistent findings in the literature. Therefore, the implementation of ERM in Nigerian banks may be viewed as more of compliance exercise because the majority of the banks complied after the mandate was given by the Central Bank of Nigeria (CBN) to avoid sanction. Thus; there is the need to introduce a risk-based regulation across all banks irrespective of their status (Ajibo, 2015).

The agency theory is however related to the focus of this study in view of the fact that ERM can help an organization to achieve its business objectives and ultimately maximize shareholders' value (Bowen *et al.*, 2006; Nocco & Stulz, 2006). Companies that undertake a risk-based program for shareholder value management typically can add more to shareholders' value (Bowen *et al.*, 2006). Allayannis and Weston (1998) suggested that active ERM does contribute to shareholders' value.It is strongly suggested that key executives of companies should be eager to make a commitment to ERM because they are ultimately responsible for the overall protection, creation and enhancement of shareholders' value.

The Agency Theory tries to see a solution to the agency problems between shareholders and directors as well as management. In the literature, managers are perceived as unwilling to increase the risk to the point that would maximize stockholder value. Amihud and Lev (1981) indicate that managers in an attempt to fight the un-diversifiable human capital are encouraged to decrease the degree of risk. In the area of corporate risk management (CORM) agency problems have been used to affect managerial attitudes toward risk taking and hedging (Liao, Chen, Lu,& Kuo, 2008).Firms are likely to deliver more information about their investment than investors if ERM is effectively enforced.This is also in line with the agency theory that supports active monitoring by the Board of Directors and other stakeholders to protect the interests of all stakeholders from the conflict of interest of the management. The relevance of the institutional theory in explaining the antecedents of ERM implementation especially in the light of regulatory influence was also examined in order to provide further explanation. This provides support to the underpinning theory that is the agency theory. The basic idea of the theory is that there are many structures, programs and practices in organizations that attain legitimacy through the social construction (Meyer & Rowan, 1977).

Another variable that exert significant influence on the ERM deployment is the internal audit effectiveness. The finding by Badara and Saidin (2014) show a positive effect of the internal audit effectiveness on the level of risk implementation in the Nigerian local government. By implication, the internal audit effectiveness has an impact on organisational performance, hence ERM implementation (Sullivan, 2000). Thus, auditing is an important governance mechanism through which the shareholders and other stakeholders seek to monitor the top management. This is in agreement with the dynamic roles of internal audit functions in ERM deployment. To this end, Smith (Smith, reprinted in 2008) noted that the key to firm's success is to deal with the separation of ownership and control.

This assertion is underpinned by the agency theory which aimed at reducing conflicts of interest, short-sightedness of writing costless contracts and monitoring of controlling interest of the firm, the absence of which firm value is decreased.Fadzil, Haron and Jantan (2006) maintain that internal auditors understand and appreciate the operations of the organization. They also act as a management consultant to lessen the level of risks and assist in managing the agency conflict more efficiently and effectively. Therefore, auditing is an important governance mechanism through which the shareholders and other stakeholders seek to monitor the top management.

Human resource competency is as well an important antecedent that has significant effect on the stage of ERM implementation in the Nigerian banking sector. This determination is not unconnected with the current tendency of human resource management which put high value on the human resource competency, especially its use in improving effective job performance, which enhances organizational competitiveness (Cardy & Selvarajan, 2006). To meet up with the global economic challenges, business leaders have made strategic human resource risk management a fundamental part of their capacity and capability management programs.

It has been noted that contractual relationship exists between an employer (principal) on one hand and an employee (agent) on the other. This contractual relationship may experience some difficulties to the extent that the employer and the worker have different goals.In the organization too, everybody is a stakeholder including the employees, and their actions are subject to monitoring by the principal

Furthermore, another important antecedent that has a positive effect on the stage of ERM implementation is top management commitment. Beasley *et al.* (2005) argue that top management support and commitment are very necessary and relevant for the successful execution of the ERM programmes. In the same vein, Bowling and Rieger (2005) suggest that without the commitment, support, and capabilities of top management, the ERM program may fail to succeed. Code of Corporate Governance from an agency theory perspective provides for adequate monitoring and effective

control mechanisms for the protection of shareholders from management's conflict of interest (Fama & Jensen, 1983).

The managers have been given the responsibility of managing and controlling those resources (Jensen & Meckling, 1976). This is based on the understanding that the agents have more information than the principal. Therefore, the information asymmetry adversely impact on the principal's ability to efficiently monitor whether if their interests are being adequately served by the agents (Adams, 1994). It is the supposition of this theory that principal and agent acts reasonably and efficiently using this contracting process to get the best utilization of their riches. The association between principal and agent will involve a contracting cost procedure whereby the principal will incur monitoring expenditure while the agent bears bonding cost.

The primary aim of every system with respect to ERM is to protect, create and enhance shareholder value and improve performance (Manab & Kassim, 2012).However, there is a universal opinion that when banks are facing greater competition, they rationally choose riskier portfolios (Boyd & De Nicolo, 2005). Such pressure can cause a momentous influence on supervisors and regulators. Still, there exist vital risk incentive mechanisms that control banks become riskier when their markets become more intense (Boyd & De Nicolo, 2005).

Thus, the assessment of the stage of ERM implementation in the Nigerian banks will solve agency problems by actually implementing ERM that will mitigate all risks connected with the banking business which can impact on the value of the shareholders as well as the stakeholders. Measures are taken to identify, assess, monitor and control all risks that can hinder the accomplishment of the bank's strategic objectives.

The Nigerian banks need to adopt the "top-down and bottom-up approach" system of communication across different levels of the bank to create awareness of ERM activities. The need to supply the necessary resources and structures for ERM practices also remains with the top management, as they are, the risk management owners. It is not enough to simply take in an ERM framework without adequate support and funding.

Consequently, the finding has a severe impact on the moderating effect of board characteristics on the relationship between the antecedents and the stage of ERM implementation. The board characteristic support was only able to moderate the relationship between internal audit effectiveness and the stage of ERM implementation. However, some research findings are in line with the finding of this study. Lasfer (2006) finds a negative relationship between the level of managerial ownership and corporate governance. The managers through their ownership choose a Board of Directors that is unlikely to monitor them. Consequently, this finding implies that the effectiveness of the board as an internal corporate governance monitoring mechanism is in doubt.

All the control variables did not have a moderating effect on the stage of ERM implementation because the adoption of ERM in the Nigerian banks was mainly due to a mandate by the CBN. The additional variables for the robustness Model did not yield any significant contribution either for obvious reasons. This clearly

demonstrates a lack of knowledge and awareness of the ERM program by a majority of the bank staff including the board members and management.

Nevertheless, given that most of the studies on ERM implementation are conducted in developed countries such as US, UK, Canada, Germany, Australia and emerging economies like Malaysia, China, Turkey and Brazil, invariably leaving Africa far behind. It is on record that sometimes, studies are greatly influenced by their context or environment in which they are conducted (Jensen, 1983). Hence, conducting this research in Nigeria has gone a long way in promoting the profile of developing countries based research in the field of risk management. This will likewise function as a motivator to the African academic community.

The study has therefore contributed to the literature on risk management and the antecedents for ERM implementation. The result of this study indicates that considering the socio-cultural differences between the western or developed and developing countries, the typical relation between principal and agent as postulated by the agency theory, may not be applicable for non-Western countries or developing countries, particularly, Nigeria. The outcomes of this research have contributed to extending an understanding and knowledge of risk management, and it is relevant to the academic community, industry and regulators. The finding contributes to the literature on ERM especially, the new variables that produced a substantial impact on ERM implementation.

To the researcher's best knowledge, the effect of internal audit effectiveness and the human resource competency on the ERM implementation have not been empirically tested by the past studies. The significant positive effect of the antecedentson the stage of ERM implementation is a landmark contribution to the body of knowledge. Furthermore, there is a notable lack of empirical evidence on the relative efficacy of the moderating effect of board characteristics on ERM deployment.

Thus, an interactive effect of board characteristics on the relationship between the regulatory influence support, internal audit effectiveness, human resource competency and top management commitment and the stage of ERM implementation was tested. This study has successfully addressed these limitations in previous studies, as the previous studies suffered from bias due to non-inclusion of these variables.

Likewise, the reconfirmation of the significant association between top management commitment and the stage of ERM implementation is another contribution. Furthermore, the mixed findings of regulatory influence in the literature have been reaffirmed by this survey which is coherent with previous surveys. Additionally, the finding further provides plausible evidence on the stage of ERM implementation which can be compared to the level of ERM implementation in other industries or countries. The study enhances the ERM framework for implementation by the addition of new variables to the framework and the introduction of a moderating variable which have been ignored by past research.

Another significant contribution is the introduction of institutional theory to support agency theory to better explain the antecedents because there is no agency relationship between the bank and the regulatory agencies but by coercion enforces compliance with the Code of Corporate Governance. This has therefore, extended the theoretical framework developed in Europe and America as well as Asian countries.

From the findings, the academic community is well positioned to significantly contribute to this increasing public policy requirement for more effective ERM implementation and corporate governance. Therefore, there is a clarion call for other sectors/industries to follow suit by eventually adopting ERM for effective management of risks as well as opportunities in an increasingly complex business environment, where the future is full of risks and uncertainties that may hook business enterprises by surprise.

6.5.3 Methodological Implication

Most studies that have examined the stage of ERM implementation and the antecedents or factors associated with ERM implementation used different techniques of analysis, such as OLS, multiple regression and many others measuring the stage of ERM implementation on an ordinal scale. However, this study used a binary regression Model using both SPSS and Stata. The stage of ERM implementation was measured on nominal scale, ERM complete in place and ERM partial in place. This is indeed a distinguishing factor and a major contribution of the study to the body of knowledge.However, the main limitation of this study is the measurement of the independent variable which is dichotomous using nominal scale and the respondents who are mostly lower level managers who may not have adequate knowledge and information on the level of ERM implementation and practices.

Similarly, the introduction of new variables that were tested for the very first time using some items that have been adapted from previous studies is also a unique methodological contribution of the research. The testing of goodness of fit (GOF), model specification and conducting CPA of the independent variables to ascertain the factor loading, KMO, variance and correlation analysis is also a great methodological contribution as the majority of the studies in this context did not conduct such tests and analyses.

6.6 Limitation of the Study

Despite the numerous contribution of this work to the body of knowledge with regards to the antecedents of ERM implementation and the current stage of ERM implementation in the Nigerian banking sector, there are nevertheless, several limitations.

The first limitation is the measurement of the dependent variable which is nominal scale, ERM complete in place, 1, if otherwise, 0. This type of scale is limited in terms of power of prediction because detail information is not provided but the respondent is constrained to either agree or not. However, other studies have used the appointment of Chief risk officer as a proxy for ERM adoption but it is still a nominal scale (Beasley *et al.*, 2005; Kleffner *et al.*, 2003). This is the least scale among all the measurement scales providing the least information (percentage) because it only gives some basic, categorical and gross information. Second limitation is the higher percentage of lower level management staffresponded to the survey could influence the findings as well as the high percentage of well-established banks with bigger assets could also influence the findings.

Furthermore, most of the respondents who were mostly lower level managers who may not have enough information and adequate knowledge of the ERM practices in their respective banks constitute another limitation. The information provided by the lower managers may not be relied upon to adequately assess the stage of ERM implementation in the Nigerian banking sector. Related to this, from the descriptive analysis, the board members and the top management did not actively take part in the survey as their percentage rating is very low. Thus, the outcomes of the survey may be ascribed to self-reporting bias as the respondents consist of top, middle and lower level management and, are located within the risk management, internal audit and other departments of the bank.

The other limitation is the difficulty encountered in getting the sampling frame which involves the top, middle and lower management of the banks both at the headquarters and operational branches. Even though, the respondents were stratified, but the actual number of staff was not determined because the banks did not release the number of their staff per branch due to the simple reason of confidentiality and competition.

Another notable limitation is the period of data collection which is about four months, from September to December, 2014 which is a short period of time and cross sectional technique was employed to collect data instead of a longitudinal approach whereby the data collection process covers a longer period of time. The major issue here is that the variables being investigated may likely vary over a period due to socio-cultural dynamics or economic trends as human organisms are taken. This study is also restricted to the banking sector and only assessed the stage of ERM implementation using survey. The study is however, limited to the money deposit (commercial) banks. Other classes of banks such as Development banks, Cooperative bank, Finance and Discount houses, Micro finance banks and a host of others were not included. Additionally, there may be important organizational characteristics or dimensions of ERM deployments that were not contemplated in the survey. Moreover, there could be some vital factors or antecedents of ERM deployment that were not utilized in the study such as organisational structure and risk culture, hence a limitation.

Though, the moderating variable tested in the survey was selected based on the review of literature and the practical issues that bear on the Nigerian banks, it is anticipated that other variables such as bank size, age of the bank or bank complexity could as well moderate the relationship among the antecedents of ERM implementation. Conversely, the items selected for the measurement of the board characteristics did not encompass all the elements of characteristics of the board, as there are so many elements or items. The choice of only eight items out of many, for measurement may not be an equal representation of all the details. Perhaps, the most important ones could have been left out which might throw a serious consequence of the results.

Finally, the underpinning theory which is the agency theory might not have adequately explained all the variables in the Model, hence; the need to support it with some theories that can better explain a particular variable such as the institutional theory. However, there could be other theories which may be very relevant but werenot also considered. Examples include; Contingency theory, Decision theory, Stakeholder theory and Steward Theory. These limitations could be overcome by conducting future research on some of them.

6.7 Suggestions for Future Research

The limitations highlighted can be overcome if future studies are conducted to look into the following vital areas:

First, future research is required to consider studying the stage of ERM implementation in the Nigerian banks using more robust scales such as interval or ratio. The dependent and independent variables can be on the interval scale or ratio. Secondly, future research can be performed on the current state of ERM practices in other classes of banks such as Development and Cooperative banks, Finance and Discount houses, Micro finance banks and other related commercial outfits to obtain an overview of the current risk management status in the Nigerian banking industry. This study focuses on a single industry. Thus, the findings may not be generalized for other industries; therefore, further work may be expanded to other industries or sectors for the purpose of comparative analysis.

Moreover, future study can as well carry out an assessment of ERM implementation intensity and its effectiveness using the board members and the top level management as the only respondents or better yet, the external auditors and shareholders.Besides, further studies can collect information from the external auditors or the regulators to assess the current state of ERM practices in the Nigerian banks to reduce the selfreporting and sampling biases by the respondents within the banks. Another area that requires further research is the introduction of moderating/ mediating variable to test the strength of the relationship between the antecedents and ERM implementation using board characteristics but with different elements or items of measurement. Other factors such as bank size, bank complexity or regulatory environment can be tested as a moderator/mediator. Additionally, researchers can as well use secondary data or qualitative approach to determine the level of ERM implementation and the current state of ERM practices in the Nigerian banks consistent with previous studies in different setting or environment.

Other theories could be applied to examine the stage of ERM implementation in the Nigerian banks beside the agency theory or in collaboration with the agency theory. Theories such as contingency, steward, Stakeholders, transaction cost, upper echelon and a host of others can be used to explain some variables better, consistent with previous studies in other fields such as internal audit function.

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Still, it will be imperative to carry out a survey on the relationship between internal audit effectiveness and the impact of ERM implementation on the internal audit function. In the same vein, further research is necessary to examine other important determinants not investigated in this work. These might include the organisational structure of the bank as well as the risk culture of the existing risk management structure. Furthermore, future work can explore the examination of ERM effectiveness after implementation in the Nigerian banks. Again, further research can also measure the impact of ERM implementation on bank performance or shareholder value.

In summary, this study has provided a preliminary basis that can spawn further research on the ERM process generally. Thus, researchers are encouraged to examine such important subjects as; methods to measure risks which may not be necessarily quantitative in nature; effective approaches for measuring relationships and interactions of several risk events so that a collection view of risks can be obtained. Other areas include motivations and barriers to ERM positioning.

6.8 Conclusion

This study contributes to the knowledge and understanding of ERM implementation to stimulate performance and enhance shareholders value. The study examined the current state of ERM practices in the Nigerian banks and provided empirical evidence on the stage of ERM implementation. The research further, examined the effect of the antecedents (regulatory influence support, internal audit effectiveness, human resource competency and top management commitment) on the stage of ERM implementation in the Nigerian banking sector. It also investigated the moderating effect of board characteristics on the relationship between antecedents and the stage of ERM implementation in the Nigerian banking sector.

The findings of this study revealed that there is an ERM complete in place in the Nigerian banks because only insignificant percent of the respondents indicated ERM partial in place. This implies that there is a full compliance with the CBN Code of Corporate Governance with respect to ERM implementation. Further finding revealed that there is a positive effect of the internal audit effectiveness, human resource competency and top management commitment on the stage of ERM implementation

in the Nigerian banks. Nevertheless, the relationship between regulatory influence support and the stage of ERM implementation is partial in that the effect is mixed.

The finding shows a moderating effect of board characteristics on the relationship between the internal audit effectiveness and the stage of ERM implementation while there is no moderating effect of board characteristics on the relationship with other antecedents. However, the control variables and the additional variables for the robustness Model did not indicate any substantial effect on the stage of ERM implementation.

These results provide plausible evidence that the type of relationship between the principal and the agent in agency theory may not be the same for non-western culture in developing countries like Nigeria, in comparison to what is obtainable in the western culture and developed nations. Lastly, the theoretical Model of this study was developed from the extant literature and the study attempted to link them to the underpinning theory. As anticipated, the findings revealed that the Model, which is adequately defended by the theories, fits the empirical data. To this end, it can be reasoned that the findings of the research justified the underpinning theories employed and the theoretical Model.

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Appendix 1: Questionnaire



Impact of antecedents on the extent of risk management implementation in Nigerian commercial banks: A moderating effect of board characteristics

As a result of increased regulatory pressure and the desire to promote good business practices, both internally and externally, there has been a paradigm shift in the risk management practices of the Nigerian banking sector. This research is to find out how the Nigerian banks are implementing enterprise risk management (ERM) in response to these regulatory pressures. The main objective of the study is to examine the impact of antecedents of the extent of ERM implementation in the Nigerian banking sector with a view to promoting good corporate governance and enhance shareholder's value.

Research benefit: The researcher believes that the findings of this survey will be of significant use to the banks and all types of organizations in respect of the management of threats and opportunities.

Confidentiality: All information provided by your bank will be treated with utmost confidence and will only be used for achieving the objectives of the study.

Instruction for completion: Kindly complete the questionnaire attached herewith. It is hope that your response will reflect the actual practice in your bank. It will be appreciated if you could return them immediately after completion.

Thank you in anticipation of your cooperation and understanding. In case of any inquiry, please contact the researcher through the address:

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.+ 60126104469, +2347066624446.	

Part A: Current status of enterprise risk management implementation (ERM) Nigerian commercial banks

The following statements relate to the current practices of enterprise risk management (ERM) in the Nigerian commercial banks. From your experience in the bank, to what extent do you agree or disagree with the statements? Please indicate the extent of your agreement with each statement by circling 1- 5, based on the following scale:
"1" = strongly disagree (SD)
"2" = Disagree (D)
"3" = Indifferent (IND)
"4" = Agree (A)
"5" = strongly agree (SA)

Section 1: What are the current focuses of risk management efforts that support ERM implementation in your bank? (Please circle all that apply)

		SD	D	IND	Α	SA
1	Integration of risk management into day to day operations	1	2	3	4	5
2	Risk management considerations are explicitly factored into decision making	1	2	3	4	5
3	Existence of the rank of chief risk officer (CRO)	1	2	3	4	5
4	ERM integrate risk management with corporate strategic planning	1	2	3	4	5
5	Aligns ERM initiatives to bank objectives and strategies	1	2	3	4	5
6	Putting a system in place to promote risk optimization and opportunities	1	2	3	4	5
7	Integration of ERM across all functions and bank business units	1	2	3	4	5

Universiti Utara Malaysia

How did you develop the framework that support ERM implementation in your bank? (Please circle all that apply).

		SD	D	IND	Α	SA
8	Continuous improvement on the existing risk management	1	2	3	4	5
	framework					
9	Adoption from Basel 11 Capital Accord	1	2	3	4	5
10	Adopt from the CAN/CSA-Q850-97, RM Guideline for	1	2	3	4	5
	decision makers					
11	Adopt from the COSO, 2004 Enterprise Risk Management	1	2	3	4	5
	Integrated Framework, USA.					
12	Adoption from Nigerian code of corporate governance by	1	2	3	4	5
	SEC and CBN, 2006.					

		SD	D	IND	Α	SA
13	Compliance with regulatory demands	1	2	3	4	5
14	Mandate from the Board of Directors	1	2	3	4	5
15	Desire to Protect and improve shareholder value	1	2	3	4	5
16	External/Internal auditors' influence	1	2	3	4	5
17	Emerging corporate governance requirements	1	2	3	4	5
18	Emerging best business practices	1	2	3	4	5

What are the Motivations for the implementation of ERM in your bank? (Please circle all that apply)

What are the areas of risk which present the greatest potential threats and become a priority to your bank? (Please circle all that apply).

	V.E.	SD	D	IND	Α	SA
19	Compliance risk	1	2	3	4	5
20	Credit risk	Univer	sit2 Ut	ara Mala	aysi4a	5
21	Information security risk	1	2	3	4	5
22	Market risk	1	2	3	4	5
23	Operational risk	1	2	3	4	5
24	Reputational risk	1	2	3	4	5
25	Liquidity risk	1	2	3	4	5

•

Section 2: Stage of ERM implementation in the bank

The following question relate to the current stage of ERM implementation in the Nigerian commercial banks. From your experience in the bank, Please answer the question by ticking [/] only one item in the appropriate box.

26. What is the current stage of risk management implementation in your bank?

The bank has complete ERM in place	[]
The bank has partial ERM in place	[]

Section 3: Antecedents of risk management implementation in the Nigerian banking sector

The following statements relate to the antecedents of ERM implementation in the Nigerian commercial banks. From your experience in the bank, to what extent do you agree or disagree with the statements? Please indicate the extent of your agreement with each statement by circling 1- 5, based on the following scale:

	Internal audit effectiveness that support ERM					
	implementation in the bank (Please circle all that apply)					
		SD	D	IND	А	SA
27	Internal audit Scope of work covers bank capital and liquidity	1	2	3	4	5
	management that support ERM implementation in the bank					
28	Internal audit independence and objectivity support ERM	al _l ay	si ₂ a	3	4	5
•	implementation in the bank			2		_
29	Internal audit educational background is relevant to banking	I	2	3	4	5
	operations which support ERM implementation in the bank					
30	Internal audit have sufficient knowledge of banking operations	1	2	3	4	5
	to support ERM implementation in the bank					
31	Internal auditor knowledge of internal auditing standards	1	2	3	4	5
	support ERM implementation in the bank					
32	Availability of audit manual in the bank support ERM	1	2	3	4	5
52	implementation	I	2	5	т	5
	ľ					
33	Top management implement internal audit recommendation to	1	2	3	4	5
	support ERM implementation in the bank					

Human resource competency that support ERM
implementation in the bank (Please circle all that apply)

		SD	D	IND	А	SA
34	The bank focuses on education and training to enhance staff capability	1	2	3	4	5
35	The bank provides infrastructure such as equipment and facilities to enhance staff performance	1	2	3	4	5
36	The bank focuses on creating knowledge of risk management through risk awareness culture	1	2	3	4	5
37	The bank applies skills, knowledge and experience to enhance competitive advantage	1	2	3	4	5
38	The bank has devised credible reward system and recognize employees and managers for their high performance and goal achievements to support capacity development	1	2	3	4	5
39	The bank promotes staff proficiency level through professional qualification and certification to support ERM implementation	ı alay	2 sia	3	4	5
40	The bank provides full time educational studies in risk management to support ERM implementation	1	2	3	4	5
	Regulatory influence that support ERM implementation in the bank (Please circle all that apply)					
		SD	D	IND	А	SA
41	The bank focuses on compliance with Nigerian codes (CBN & SEC) of corporate governance	1	2	3	4	5
42	The bank focuses on consistent compliance with procedures and policies of the bank	1	2	3	4	5

43	The bank focuses on compliance with stock exchange listing requirements	1	2	3	4	5
44	The bank focuses on compliance with government rules and regulations	1	2	3	4	5
45	The bank focuses on compliance with Basel 11 accord principles	1	2	3	4	5
47	The bank focuses on compliance with risk management standards and guidelines	1	2	3	4	5

	Top management commitment that influence ERM					
	implementation in the bank (Please circle all that apply)					
47	Top management assumes the responsibility of initiating and	1	2	3	4	5
	maintaining ERM goals and cultural awareness					
48	Top management vision, mission and commitment to ERM	1	2	3	4	5
	implementation is continually communicated to all employees					
49	Top management is accountable for ERM implementation and	1	2	3	4	5
	is involved in reviewing progress report towards ERM					
	processes ersiti Utara M	alay	sia			
50	Top management develops policies and guidelines for risk	1	2	3	4	5
	management implementation					
- 1				2		_
51	Top management makes risk management a top priority and	I	2	3	4	5
	spends a significance proportion of time on ERM issues			2		-
52	Necessary policy changes have been made to encourage	1	2	3	4	3
	employees participation and involvement in ERM process					_
53	Top management have Sufficient Skills, knowledge and	I	2	3	4	5
	experience in ERM process and decision making					
54	Top management Encourages employees competency	1	2	3	4	5
	development by providing needed funds for training and					
	education on the ERM essential technique					
55	Top management is committed to ERM process through the	1	2	3	4	5
	implementation of internal audit recommendation					

56	Top management Promotes risk optimization and exploits	1	2	3	4	5
	opportunities to enhance competitive advantage					

Section 3; Board characteristics as a moderating variable

	Board characteristics that support ERM implementation					
		SD	D	IND	А	SA
57	The larger boards with diverse background have knowledge and are more experienced to support ERM implementation.	1	2	3	4	5
58	Internal and external directors have skills and expertise that support ERM implementation	1	2	3	4	5
59	Frequency of board meetings support ERM implementation	1	2	3	4	5
60	The presence of risk management committee support ERM implementation	1	2	3	4	5
61	Higher percentage of independent board directors support ERM deployment		Ζ	3	4	5
62	The board directors with equity ownership are more committed to ERM implementation					
63	Greater percentage of women board directors support ERM implementation	ı ysi	2	3	4	5
64	The directors with related educational background are committed to ERM implementation	1	2	3	4	5

Part B: Section 1: Relate to the personal profile of the respondent and some general information about the bank.

From your experience in the bank, Please answer the following questions by ticking (/) only one item

in the appropriate box.

65. What is your age?

Less than 30 Years	[]
31 - 40 Years	[]
41 - 50Years	[]
51 Years and above	[]

66. What is your gender?

Male [] Female []

67. Which category of staff do you belong to?

Top level management

[]

Middle level management	[]
Lower level management	[]
68. Which department/unit do you belong to?	
Risk management department/unit Internal audit/compliance department/unit Others (Please specify)	[] [] []
69. What is your designation?	
Board Committee Member	[]
Executive Director General Manager Deputy/Assistant General Manager Principal Manager/Senior Manager	

1 Γ

Execu General Manager Deputy/Assistant General Manager Principal Manager/Senior Manager Manager Others, (Please specify)

70. How many years of experience do you have in risk management?

1-5 Years 6-10 Years 10 and above	[] [] []
71. What is your highest educational qualification?	
Doctoral degree Master degree Bachelor degree or equivalent Diploma or A-level or equivalent GCE or o-level or equivalent	[] [] [] []
72. Are you a member of any professional accounting/auditing body?	
73. If yes, please tick all that apply	
Association of National Accountants of Nigeria (ANAN) Institute of Chartered Accountants of Nigeria (ICAN)	[]
74. Are you a member of any other professional body apart from ANAN and ICAN?	
Chartered Institute of Management Accountants, Nigeria (CIMA) Association of Chartered Certified Accountants (ACCA) Institute of Internal Auditors (IIA)	[] [] []
Others (Please specify)	
Section 2: General information about the bank	
75. How long has your bank been in existence?	
Less than 5 Years 6 - 10 Years 11 - 15 Years	[] [] []

16 - 20 Years 21 Years and above				[]
76. Is your bank listed on the Nigerian Stock Exchange?					
	Yes	[]	No	[]
77. Does your bank have a chief risk officer (CRO)?					
	Yes	[]	No	[]
78. Which Audit firm does audit for your bank?					
Big4 None big4				[]]

79. What is the total asset of your bank as at 31^{st} December, 2012?

Less than 25 billion Naira []	
25Billion - 50 Billion Naira	[]
51Billion - 75 Billion Naira	[]
76 Billion - 100 Billion Naira	
101 Billion Naira and above	[]
0. What is the number of your branches?	
Less than 30 Branches 31 - 60 Branches 61 - 90 Branches 91 - 120 Branches 121 branches and above	ara Malays[ia [] [] []
Section C: Respondents comments/ suggestions	
Kindly make comments/Suggestions	

Thank you.

APPENDIX 2: QUESTIONNAIRE DEVELOPMENT

Part One:

Variables	Elements/Items	Items	Source
	Integration of risk management into		
	day to day operations		
	Risk management considerations are		
	explicitly factored into decision		
The current focus of	making		
risk management	Existence of the rank of chief risk		(Colquitt et al., 1999;
efforts in my bank	officer (CRO)		Klefnner et al., 2003 ;
	ERM integrates risk management		Kassim & Hussin, 2010;
	with corporate strategic planning		Manab & Kassim, 2012;
	Align ERM initiatives to bank	7	Yegon, Mouni &
	objectives and strategies		Wanjau, 2014)
	Put a system in place to promote risk		
	optimization and opportunities		
	Integration of ERM across all		
UTARA	functions and bank business units		
	Creation of risk awareness culture		
A E			
	Continuous improvement of the		
BUDI BUDI	existing risk management framework	Mala	ysia
	Adoption from Basel 11 Capital		
	Accord		
	Adopt from the CAN/CSA-Q850-97,		
Development of ERM	Risk Management Guideline for		(Fadun, 2013; Manab &
framework in my bank	decision makers	5	Kassim, 2012)
nume vor kin my built	Adopt from the COSO, 2004	C .	
	Enterprise Risk Management		
	Integrated Framework, USA, 2004		
	Adoption of Nigerian code of		
	corporate governance by SEC and		
	CBN, 2006.		
	Compliance with regulatory		(Beasley <i>et al.</i> ,2010;
Motivations for my	demands		Hoyt & Liebenberg,
bank to adopt risk	Mandate from the Board of Directors		2008;
management	Desire to Protect and improve	6	Kleffner et al., 2003)
	shareholder value		
	External/Internal auditors influence		

Variables	Elements/Items	Items	Source
	Emerging corporate governance		
	requirements		
	Emerging best business practices		
	Compliance risk		
Areas of risk which	Credit risk		Desender 2007, Fedur
present the greatest	Information security risk		2012 March of all
potential threats and	Market risk		2013; Manab ei $ai.,$
become a priority for	Operational risk		2010;Njogo, 2012)
my bank	Reputational risk	7	
	Liquidity risk		
	Antecedents of risk management		
Devit town	implementation		
Part two			
	Complete ERM in Place		
Stage of enterprise risk	Partial ERM in Place		Beasley et al., (2005;
management	Planning to implement ERM		2006; 2011; Daud,
implementation	Investigating to adopt ERM		Haron & Ibrahim, 2011)
	No plan Exist to implement ERM	5	
	The bank focuses on compliance		
Elin Brins BA	with Nigerian codes (CBN & SEC)	Mala	ysia
SULA	of corporate governance		
	The bank focuses on consistent		
	compliance with the procedures and		(Desender, 2007;
	policies of the bank		Liebenberg &Hoyt, 2008;
	The bank focuses on compliance with		Paape & Spekle, 2011)
Regulatory Influence	stock exchange listing requirements		
	The bank focuses on compliance with		
	government rules and regulations		
	The bank focuses on compliance with		
	Basel 11 accord		
	The bank focuses on compliance with		
	risk management standards and		
	guidelines	6	
Internal Audit	Internal audit independence and		
Effectiveness	objectivity support ERM		(Al-Twaijry et al.,
	implementation in my bank		2004;Badar & saidin,

Variables	Elements/Items	Items	Source
	Internal audit Scope of work covers		2014;
	bank		
	Capital and liquidity management		Beasley et al., 2006;
	which support ERM implementation		Cohen & Sayag, 2010;
	in my bank		Fadzil et al.,2005;
	My bank recognizes and promotes		Mihret & Yismaw, 2007)
	standards of proficiency, technical		
	competence and personal moral		
	integrity among the internal audit to		
	support ERM implementation		
	Internal audit educational		
	background is relevant to banking		
	operations which support ERM		
	implementation in my bank		
	Internal audit has sufficient		
	knowledge of banking operations to	8	
UTARA	support ERM implementation in my		
S	bank		
AE1	Internal audit knowledge of internal		
	auditing standards supports ERM		
	implementation in my bank	_	
Can mar Bis	Availability of audit manual in my	Mala	ysia
autri i	bank support ERM implementation		
	Top management implements		
	internal audit recommendation to		
	support ERM implementation in my		
	bank		
	My bank focuses on education and		
	training to enhance staff capability		Al-Twaijry et al., 2004;
	My bank provides infrastructure such		Colquit, Hoyt &Lee.,
	as equipment and facilities to		1999; Yaraghi & Langhe,
Human resource	enhance staff performance		2011;
competency	My bank focuses on creating	7	
	knowledge of risk management		
	through risk awareness culture		
	My bank applies skills, knowledge		
	and experience to enhance		
	competitive advantage		

Variables	Elements/Items	Items	Source
	My bank has devised a credible		
	reward system and recognize		
	employees and managers for their		
	high performance and goal		
	achievements to support capacity		
	development		
	My bank promotes staff proficiency		
	level through professional		
	qualification and certification to		
	support ERM implementation		
	My bank provides full time		
	educational studies in risk		
	management to support ERM		
	implementation		
	Top management assumes the		
	responsibility for initiating and		
	maintaining ERM goals and culture		
	Top management vision, mission		
AEL	and commitment to ERM		
	implementation is continually		
	communicated to all employees	_	
	Top management is accountable for	Mala	ysia
	risk management implementation		
	The policy and strategy of our bank		Manah & Kassim 2012:
Top Management	are based on the concept of ERM		Ren Chandrasekar & Bin
commitment which	Top management development bank-		Li 2012: Varaghi &
influence ERM	wide guidelines for risk management		Li, 2012, Tataghi &
implementation in my	and is involved in reviewing progress		al 2002)
bank	towards ERM process		<i>ut.</i> , 2002)
	Top management makes risk		
	management a top priority and		
	spends a significant proportion of		
	time on ERM issues	10	
	Necessary policy changes have been		
	made to encourage employees		
	participation and involvement in the		
	ERM process Top management		
	provides needed funds for		
	infrastructure such as equipment and		

Variables	Elements/Items	Items	Source
	facilities		
	Top management has Sufficient		
	Skills, knowledge and experience in		
	ERM process and decision making		
	Top management Encourages		
	employee competency development		
	by providing needed funds for		
	training and education on the ERM		
	essential technique		
	Top management is committed to		
	ERM process through the		
	implementation of internal audit		
	recommendation		
	Top management Promotes risk		
	optimization and exploit		
	opportunities to enhance competitive		
UTARA	advantage	_	_
E A			
ER			
F. U.	Larger Boards with diverse	_	
	background have knowledge and are	Mala	ysia
BUDI BU	more experienced to support ERM		
Board Characteristics	implementation		
	Internal and external directors have		
	the skills and expertise that support		Adams and Ferreira,
	ERM implementation		2009; Beasley, 1996;
	Frequency of board meetings,		Desender, (2007; Ren,
	supports ERM implementation		Chandrasekar &Bin Li,
	The presence of risk Management		2012;
	committee support ERM		Yazid & Daud, 2011)
	implementation		
	The higher percentage of independent		
	Board directors support ERM		
	deployment		
	The board directors with equity		
	ownership are more committed to		
	ERM implementation		
	The greater percentage of women	8	

Variables	Elements/Items	Items	Source
	Board Directors support ERM		
	implementation		
	The directors with educational		
	background are committed to ERM		
	implementation		
Total	Items	69	



Appendix 3 Logistic Output for Model 1

. logit S	SERM RIS	S IAE HRO	2						
Iteration	n 0: 1	.og likel	ihood =	-153.	1231				
Iteration	1: 1	.og likel	ihood =	-145.3	0992				
Iteratior	1 2: 1	.og likel	ihood =	-143.9	5844				
Iteratior	13 : 1	.og likel	ihood =	-143.9	5641				
Iteratior	n 4: 1	.og likel	ihood =	-143.9	5641				
Logistic	regress	sion			Number of	obs	=	435	
	-)				LR chi2(3)		=	18.33	
					Prob > chi	2	=	0.0004	
Log likel	ihood =	-143.95	641		Pseudo R2		=	0.0599	
5									
SERM	Coef	. Std.	Err.	 Z	P> z	 [95१	Gonf.	Interval]	
RIS	.32652	.169	0884	1.93	0.053	004	18872	.6579272	
IAE	.28670	.16	59002	1.73	0.084	038	34492	.6118678	
HRC	.2783	3901 .1	5435	1.80	0.071	024	1303	.5809105	
_cons	-1.6093	.8	401628	-1.92	0.055	-3.25	5607	.037308	

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353

Appendix 4: Logistic Regression Output for Model 2 __/ / / _ 13.0 Copyright 1985-2013 StataCorp LP / / /___/ Statistics/Data Analysis StataCorp 4905 Lakeway Drive Special Edition College Station, Texas 77845 USA 800-STATA-PC http://www.stata.com 979-696-4600 stata@stata.com 979-696-4601 (fax) 3-user Stata network perpetual license: Serial number: 501306208483 Licensed to: IDRE-UCLA IDRE-UCLA Notes: 1. (/v# option or -set maxvar-) 5000 maximum variables . use "C:\Users\User\Desktop\Working Dab..41.dta", clear . do "C:\Users\User\AppData\Local\Temp\STD04000000.tmp" . logit SERM RIS IAE HRC TMC BCS log likelihood = -153.1231 Iteration 0: Iteration 1: \log likelihood = -142.88925 \log likelihood = -141.40921 Iteration 2: Iteration 3: log likelihood = -141.40357 Iteration 4: \log likelihood = -141.40357 Number of obs 435 Logistic regression LR chi2 (5) 23.44 Prob > chi2 0.0003 Log likelihood = -141.40357Pseudo R2 0.0765 Coef. Std. Err. SERM Z P>z [95% Conf. Interval] .1429708 0.74 .5202864 0.458 -.2343447 RIS .1925115 .3418751 .1796155 1.90 0.057 -.0101648 IAE .6939151 .7011728 HRC .3752854 .1662721 2.26 0.024 .049398 .1839006 0.019 .7910308 .0701536 TMC .4305922 2.34 BCS -.642989 .2922642 -2.20 0.028 -1.215816 -.0701616 -0.61 0.540 cons -.6027392 1.323729 .9829101 -2.529208

. lfit,group(10) table

Logistic model for SERM, goodness-of-fit test

(T)	able coll	apsed	on quan	tiles o	f estim	ated pr	obabilities	3)
Gr	oup	Prob	Obs_1	Exp_1	Obs_0	Exp_0	Total	_
1	0.7977	33	30.6	11	13.4	44		
2	0.8493	34	36.4	10	7.6	44		
3	0.8817	35	37.4	8	5.6	43		
4	0.8981	39	39.1	5	4.9	44		
5	0.9113	41	39.8	3	4.2	44		

60.92034039.433.64370.93194341.723.34580.94254445.043.04890.95063736.012.038100.98974040.521.542 +-----+ Number of observations= 435Number of groups= 10Hosmer-Lemeshow chi2 (8)= 4.81Prob > chi2= 0.7772 . lstat Logistic model for SERM ----- True -----Classified D ~ D Total 384 46 430 + 2 3 5 386 49 Total 435 Classified + if predicted Pr (D) \geq =.5 True D defined as SERM = 099.48% Pr (+ D) Sensitivity Pr (-~D) Specificity 6.12% Pr (D +) Positive predictive value 89.30% Pr (~D -) Negative predictive value 60.00% Pr (+~D) 93.88% False + rate for true ~D False - rate for true D Pr (- D) 0.52% False + rate for classified +Pr (~D +)10.70%False - rate for classified -Pr (D -)40.00% Correctly classified 88.97% . linktest Iteration 0: log likelihood = -153.1231 Iteration 1: log likelihood = -145.25373 Iteration 2: log likelihood = -141.68896 Iteration 3: log likelihood = -141.34618 log likelihood = -141.34558 Iteration 4: Iteration 5: \log likelihood = -141.34558 Logistic regression Number of obs = 435 LR chi2(2) = 23.560.0000 Prob > chi2 = Log likelihood = -141.34558Pseudo R2 0.0769 = SERM Coef. Std. Err. z P>z [95% Conf. Interval] 2.085947 .7866096.66293951.190.235-.5127282.085947.0655661.19426210.340.736-.3151806.4463128.1325888.57830090.230.819-1.000861.266038 hat _hatsq .4463128 _cons

--+----

. mfx co Elastici y = Pr(S = .904	mput,eye ties aft ERM) (pr 4621	ex at(mear cer logit cedict)	1)					
variable	ey/ex S	Std. Err.	Z	P>z	[95%	C.I.]	Х
RIS .058 IAE .143 HRC .151 TMC .172 BCS253	7186 . 788 . 5758 . 0225 . 7687 .	07891 0754 06628 07274 11263 -	0.74 1.91 2.29 2.36 2.25	0.457 0.057 0.022 0.018 0.024	095947 00398 .02166 .02944 47452	2 .213 35 .29 5 .28 19 .31 210	3385 91561 31491 L4596)33017	4.29885 4.4023 4.22759 4.18161 4.13103

Appendix 5: Logistic Regression Output for Model 3

(R) 13.0 Copyright 1985-2013 StataCorp LP Statistics/Data Analysis StataCorp 4905 Lakeway Drive College Station, Texas 77845 USA Special Edition 800-STATA-PC http://www.stata.com 979-696-4600 stata@stata.com 979-696-4601 (fax) 3-user Stata network perpetual license: Serial number: 501306208483 Licensed to: IDRE-UCLA IDRE-UCLA Notes: (/v# option or -set maxvar-) 5000 maximum variables 1. . use "C:\Users\User\Desktop\Working Dab..41.dta", clear . logistic SERM RIS IAE HRC TMC BCS Auditfirm Assets Branches NSE CRO Logistic regression Number of obs 435 = LR chi2(10) 25.98 Prob > chi2 = 0.0038 Log likelihood = -140.13376Pseudo R2 0.0848 = _____ SERM | Odds Ratio Std. Err. z P>|z| [95% Conf. Interval] _____+

 RIS |
 1.118208
 .2179637
 0.57
 0.567

 IAE |
 1.455346
 .267569
 2.04
 0.041

 HRC |
 1.460179
 .2421964
 2.28
 0.022

 .7631406 1.638479 1.015011 2.086709 1.05492 2.021124 TMC | 1.598764 .3005296 2.50 0.013 1.10606 2.310947 .1594861 .4114435 .3059058 BCS | .5436327 -2.08 0.038 .966103 .6185214 0.55 0.582 0.77 0.442 Auditfirm1.206677 2.354113 .1966062 .8146276 Assets | 1.141677 1.600026 -0.66 0.506 Branches .8086472 1.512468 .2583327 .4323464 NSE | 1.993575 1.380105 1.00 0.319 .5132934 7.742822 .0845135 CRO | .7149352 .7788854 -0.31 0.758 6.047937 _cons | .341225 .8195378 -0.45 0.654 .0030808 37.79339 ___

. do "C:\Users\User\AppData\Local\Temp\STD04000000.tmp"

. logit SERM RIS IAE HRC TMC BCS Auditfirm Assets Branches NSE CRO Iteration 0: log likelihood = -153.1231

Iteration	1:	log	likelihood =	-141.81898
Iteration	2:	log	likelihood =	-140.14065
Iteration	3:	log	likelihood =	-140.13376
Iteration	4:	log	likelihood =	-140.13376

Logistic regressio	'n	Number of LR chi2(1	obs = 0) =		435 25.98		
Log likelihood = -	140.13376			Prob > ch Pseudo R2	12 =	0	.0038 .0848
SERM Interval]	Coef.	Std. E	lrr.	z P>	Z	[95%	Conf.
RIS .1117277	.1949223	0.57	0.567	270313	.493	7683	
IAE .3752437	.1838525	2.04	0.041	.0148993	.735	5588	
HRC .3785592	.1658676	2.28	0.022	.0534648	.7036	6536	
TMC .469231	.1879762	2.50	0.013	.1008045	.8376	5576	
BCS 6094814	.293371	-2.08	0.038	-1.184478	0344	1849	
Auditfir.1878702	.3409724	0.55	0.582	4804235	.8562	L638	
Assets .1324978	.1722083	0.77	0.442	2050242	.4700	0199	
Branches2123926	.3194628	-0.66	0.506	8385282	.413	3743	
NSE .6899293	.6922765	1.00	0.319	6669076	2.040	6766	
CRO 3355634	1.089449	-0.31	0.758	-2.470844	1.799	9717	
_cons -1.075213	2.401752	-0.45	0.654	-5.782561	3.632	2134	
r(111);							

. do "C:\Users\User\AppData\Local\Temp\STD04000000.tmp"

. lfit,group(10) table Universiti Utara Malaysia

Logistic model for SERM, goodness-of-fit test

(Table	collapsed	on	quantiles	of	estimated	probabilities)

+							+
Gro	oup	Prob	Obs_1	Exp_1	Obs_0	Exp_0	Total
1	1 1	0 7838	। २२	-+ I 30 3	+ I 11	1 13 7	+
1	2 1	0 8514	1 35	1 35 3	1 8	1 7 7	43
ì	3	0.8790	1 34	38.1	1 10	5.9	44
i	4	0.8974	38	38.3	1 5	4.7	43
i	5	0.9108	39	39.8	5	4.2	44
	+		+	+	+	+	+
1	6	0.9223	42	39.4	1	3.6	43
	7	0.9358	40	40.9	4	3.1	44
	8	0.9451	43	42.3	2	2.7	45
1	9	0.9578	40	39.9	2	2.1	42
	10	0.9939	42	41.7	1	1.3	43
+							+
umber	numb of a	er of ob	servatic	ons =	435		

number of groups = 10		
Hosmer-Lemeshow chi2(8)	=	6.85
Prob > chi2	=	0.5526

. do "C:\Users\User\AppData\Local\Temp\STD04000000.tmp"

. lstat

Logistic model for SERM

----- True -----Classified | D ~D | Total ____ _____ ____+ -+--| 385 47 | | 1 2 | 432 + 3 _____ Total | 386 49 | 435 Classified + if predicted Pr (D) \geq .5 = 0 True D defined as SERM! _____ _____ Sensitivity Pr (+| D) 99.74% Specificity Pr (−|~D) 4.08% Pr (D| +) 89.12% Pr (~D| -) 66.67% Positive predictive value Negative predictive value -----False + rate for true $\sim D$ Pr (+| $\sim D$)95.92%Pr (+| $\sim D$)Pr (+| $\sim D$)Pr (+| $\sim D$) Pr (-| D) 0.26% False - rate for true D False + rate for classified + Pr(~D| +) 10.88 False - rate for classified - Pr(D| -) 33.33% 10.88% _____ Correctly classified 88.97% _____ . do "C:\Users\User\AppData\Local\Temp\STD04000000.tmp" . linktest Iteration 0: log likelihood = -153.1231 Iteration 1: log likelihood = -144.02849 Iteration 2: log likelihood = -140.26614 Iteration 3: log likelihood = -140.26614 Iteration 3: log likelihood = -139.95848 log likelihood = -139.95806 Iteration 4: Iteration 5: log likelihood = -139.95806 Number of obs = Logistic regression 435 LR chi2 (2) = 26.330.0000 = Prob > chi2 Log likelihood = -139.95806Pseudo R2 0.0860 = _____ ___ Coef. Std. Err. z P>|z| [95% Conf. Interval] SERM | _____+ _hat | .6581609 .6126187 1.07 0.283 -.5425497 1.85887 _hatsq | .1043578 .1785594 0.58 0.559 -.2456123 .4543279 _cons | .2123382 .5427895 0.39 0.696 -.8515096 1.276186 do "C:\Users\User\AppData\Local\Temp\STD04000000.tmp" mfx comput, eyex at(mean) Elasticities after logit y = Pr(SERM) (predict) = .90682032 z P>|z| [95% C.I.] variable | ey/ex Std. Err. Х _____+______ RIS |.0447542.078040.570.566-.108202.197714.29885IAE |.1539267.074942.050.040.007051.3008024.4023HRC |.149124.064892.300.022.021951.2762974.22759TMC |.1828316.072112.540.011.041508.3241564.1816

.07211 2.54 0.011 .041508 .324156 4.1816

TMC | .1828316

```
BCS | -.2346067.11091-2.120.034-.451995-.017219.45433Auditf~m.0240653.043650.550.581-.061496.1096261.3747Assets |.0500088.064890.770.441-.077182.17724.05057Branches-.0955867.14299-0.670.504-.375842.1846694.82989NSE | .0696077.069211.010.315-.066042.2052571.08276CRO | -.0319146.10352-0.310.758-.234808.1709781.02069
 . gen bcsiae= BCS* IAE
 . gen bcshrc= BCS* HRC
 . gen bcstmc= BCS* TMC
 . gen bcsris= BCS* RIS
 . logit SERM IAE HRC TMC RIS BCS bcsiae bcshrc bcstmc bcsris
Iteration 0: log likelihood = -153.1231
Iteration 1: log likelihood = -138.79345
Iteration 2: log likelihood = -135.26958
Iteration 3: log likelihood = -135.12018
Iteration 4: log likelihood = -135.1199
Iteration 5: log likelihood = -135.1199
Logistic regression
                                                                           Number of obs =
                                                                                                                            435
LR chi2(9) = 36.01
Prob > chi2 = 0.0000
Log likelihood = -135.1199
                                                                                                         = 0.1176
                                                                            Pseudo R2
                            ____
SERM | Coef. Std. Err. z P>|z| [95% Conf.
Interval]
Interval]
IAE-2.180757.958337-2.280.023-4.059063-.3024513HRC.1552604.88942390.170.861-1.5879781.898499TMC3.3501971.2596382.660.008.8813525.819041

      TMC |
      3.350197
      1.259638
      2.66
      0.008
      .881352
      5.819042

      RIS |
      -1.12832
      1.135869
      -0.99
      0.321
      -3.354583
      1.097942

      BCS |
      -1.162986
      1.203376
      -0.97
      0.334
      -3.52156
      1.195588

      bcsiae |
      .6779493
      .2446708
      2.77
      0.006
      .1984032
      1.157495

      bcshrc |.0264829
      .2332383
      0.11
      0.910
      -.4306559
      .4836216

      bcstmc -.7584487
      .309364
      -2.45
      0.014
      -1.364791
      -.1521065

      bcsris |.2537448
      .2853578
      0.89
      0.374
      -.3055462
      .8130357

      _cons |2.679096
      4.749348
      0.56
      0.573
      -6.629454
      11.98765

                                                                                                                   1.097943
                                                                                                                   1.195588
                                                                                                                    1.157495
                                                                                                                    .4836216
```

Appendix 6: Structural Equation Modeling

_____(R)

1. sem (SERM -> IAE) (SERM -> HRC) (SERM -> TMC) (SERM -> RIS) (SERM -> BCS), latent(SERM) nocapslatent

note: The following latent variable name is also present in the data: SERM.

Endogenous variables

Measurement: IAE HRC TMC RIS BCS

Exogenous variables

Latent: SERM

Fitting target model:

Iteration 0: log likelihood = -2491.3781 Iteration 1: log likelihood = -2491.2616 Iteration 2: log likelihood = -2491.2615

Structural equation model Estimation method = ml Log likelihood = -2491.2615

(1) [IAE]SERM = 1

| OIM | Coef. Std. Err. z P>|z| [95% Conf. Interval]

Number of obs

435

=

Measurement |

IAE <- SERM 1 (constrained) _cons 4.402299 .0397241 110.82	0.000 4.324441 4.480157
HRC <- SERM 1.122806 .1496294 7.50 _cons 4.227586 .0450756 93.79	0.000 .8295375 1.416074 0.000 4.13924 4.315933
TMC <- SERM 1.188396 .1488288 7.98 _cons 4.181609 .0418019 100.03	0.000 .8966969 1.480095 0.000 4.099679 4.263539
RIS <- SERM 1.587772 .1760256 9.02 _cons 4.298851 .0436871 98.40	0.000 1.242769 1.932776 0.000 4.213225 4.384476
BCS <- SERM 1.027192 .121338 8.47 _cons 4.131034 .0318822 129.57	0.000 .7893742 1.265011 0.000 4.068546 4.193523
Variance e.IAE .5039532 .0386014 .433 e.HRC .6537868 .0500332 e.TMC .5024091 .0407743	37011 .585585 .5627235 .7595864 .4285249 .5890321

e.RIS .3701951 .0420437	.2963181 .4624909
e.BCS .2496308 .0227015	.2088765 .2983366
SERM .1824781 .0363464	.1234999 .2696216

LR test of model vs. saturated: chi2(5) = 2.79, Prob > chi2 = 0.7328

2. m (SERM -> HRC) (SERM -> TMC) (SERM -> RIS) (SERM -> IAE) (SERM -> BCS), latent(SERM) nocapslatent

note: The following latent variable name is also present in the data: SERM.

Endogenous variables

Measurement: HRC TMC RIS IAE BCS

Exogenous variables

Latent: SERM

Fitting target model:

Iteration 0: log likelihood = -2491.3277 Iteration 1: log likelihood = -2491.2616 Iteration 2: log likelihood = -2491.2615

```
Structural equation model
Estimation method = ml
Log likelihood = -2491.2615
```

(1) [HRC]SERM = 1

OIM

Coef. Std. Err. z P>|z| [95% Conf. Interval]

Number of obs

435

=

Measurement			i and i rana join
HRC <-			
SERM 1 (constrained)			
_cons 4.227586 .0450756	93.79 0.	000 4.13924	4.315933
TMC <-			
SERM 1.058412 .132326	8.00 0.0	000 .7990575	1.317766
_cons 4.181609 .041802 1	100.03 0.	000 4.099679	4.26354
+			
RIS <-			
SERM 1.414104 .1630188	8.67 0.	.000 1.094593	1.733615
_cons 4.298851 .0436872	98.40 0.	000 4.213225	4.384476
++			
SERMI 8906193 1186877	7500	000 6579956	1 123243
cons = 1.4.402209 = 0.397241	110.82 0		1.120240
			4.400137
BCS <-			
SERM .914841 .1070193	8.55 0.0	.705087	1.124595
cons 4.131034 .0318823	129.57 0	.000 4.068546	4.193523

Variance				
e.HRC	.6537863	.0500332	.5627231	.7595858
e.TMC	.5024092	.0407743	.4285249	.5890322
e.RIS	.3701953	.0420437	.2963183	.462491
e.IAE	.5039537	.0386015	.4337014	.5855856

e.BCS .2496308 .0227015	.2088765 .2983367
SERM .2300517 .0465234	.15477 .341951
LR test of model vs. saturated: chi2(5) = .	2.79, Prob > chi2 = 0.7328

..



S/No.	Bank	Head Office	
1	Access Bank Plc.	1665, Oyin Jolayemi Street, Victoria Island, Lagos.	Lagos
2	Citibank Nigeria Limited	11 Idowu Taylor Street, Lagos	Lagos
3	Diamond Bank	Plot 1261 Adeola Hopewell Street, Lagos	Lagos
4	Ecobank Bank Limited	2, Ajose Adeogun Street, Lagos	Lagos
		Plot 143, Ahmadu Bello Way, Victoria Island,	
5	Enterprise Bank Limited	Lagos	Lagos
6	Fidelity Bank Plc	2 Kofo Abayomi Street, Lagos	Lagos
7	First Bank of Nigeria Plc	35 Marina, Lagos	Lagos
8	First City Monument Bank	Primrose Towers, 6-10 Floors 17A Tinubu Square,	Lagos
0	Plc	Un Lagos rsiti Utara Malaysia	
9	Guaranty Trust Bank Plc	Plot 1669, Oyin Jolayemi Street, Lagos	Lagos
10	Heritage Bank Ltd.	292B Ajose Adeogun Street, Victoria Island, Lagos	Lagos
11	Key Stone Bank	Plot 707, Adeola Hopewell Street, Lagos	Lagos
12	Main Street Bank	94, Broad Street, Lagos	Lagos
		Plot 708/709, Adeola Hopewell Street, Victoria	
13	Skye Bank Plc	Island, Lagos	Lagos
14	Stanbic IBTC Bank Ltd	Walter Carrington Crescent, Vicoria Island Lagos	Lagos

Appendix 7: List of Commercial Banks and Location of their Head Offices

15	Standard Chartered Bank Nigeria	105B, Ajose Adeogun Street, Lagos	Lagos
15	Ltd.		Lagos
16		Sterling Towers, 20 Marina, Lagos	T
10	Sterling Bank Plc		Lagos
17		36, Marina, Lagos	т
1/	Union Bank of Nigeria Pic		Lagos
10	Inited Deals For Africa Dia	57, Marina, Lagos	T
18	United Bank For Africa Pic		Lagos
10	United Develople	Plot 785, Herbert Macauly Way, Abuja	Abuja
19	Unity Bank Pic		
20	Wama Dank Dia	Wema Towers 54, Marina Lagos Island	Lagos
20	wema bank ric		Lagos
		Plot 292, Ajose Adeogun Street, Victoria Island,	
21		Lagos	Lagos
	Zenith Bank Plc	Lugos	2
Soi	urce: Central Bank of Nigeria (C	CBN), 2012	



Appendix 8: Letter for Data Collection from Supervisor



School of Accountancy (SOA) UUM College of Business Accounting Building Universiti Utara Malaysia 06010 UUM Sintok Kedah DarulAman, Malaysia Tel: 604 928 7201 Fax: 604 928 7216

UUM/COB/SOA/P-89

8th October 2014

TO WHOM IT MAY CONCERN

Dear Sir/Madam

DATA COLLECTION

PROGRAMME:DOCTOR OF PHILOSOPHYPROJECT TITLE:"THE LEVEL OF RISK MANAGEMENT IMPLEMENTATION IN NIGERIAN
BANKING SECTOR"

This is to certify that the following is a postgraduate student from the School of Accountancy, College of Business, Universiti Utara Malaysia. He is pursuing the above mentioned course which requires him to undertake an academic study and prepare an assignment. The details are as follows:

NO.	NAME	MATRIC NO.
1.	Ishaya John Dabari	94951

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yours sincerely

thabah

DR. SITI ZABEDAH SAIDIN PhD Supervisor School of Accountancy College of Business, UUM c.c - Student's File (94951)

Appendix 9: Letter of Data Collection from Oya, UUM.



OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS Universit Utara Malaysis 06010 UUM SINTOK KEDAH DARULAMAN MALAYSIA



Tel: 504-328 7116/7119/7130 Faka (tea): 604-926 7160 Laman Web (1995): www.spage2.ia.m.edu.my

KEDAH AMAN MAKMUR + BERSAMA MEMACU TRANSFORMASI

UUM/OYAG58/K-14 17 August 2014

TO WHOM IT MAY CONCERN

Dear Sir/Madam

DATA COLLECTION

PROGRAMME: DOCTOR OF PHILOSOPHY SUPERVISOR: DR. SITI ZABEDAH SAIDIN

This is to certify that the following is a postgraduate student from the OYA Graduate School of Business, Universiti Utara Malaysia. He is pursuing the above mentioned course which requires him to undertake an academic study and prepare an assignment, the details are as follows:

NOL	NAME	MATRIC NO.
1/1/1	hava John Dabari	94951

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much oppreciated, Malaysia

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yourstath ROZITA BINTERAMALA

for Dean

Othmon Yeop Abdullah Graduate School of Business

c.c - Student's File (94951)





given a finite po	opulation (N = Populatio	on size and n = Sample si	ze) N-n	N-n
10-10	100-80	280-162	800-260	2800-338
15-14	110-86	290-165	850-265	3000-341
20-19	120-92	300-169	900-269	3500-346
25-24	130-97	320-175	950-274	4000-351
30-28	140-103	340-181	1000-278	4500-354
35-32	150-108	360-186	1100-285	5000-357
40-36	160-113	380-191	1200-291	6000-361
45-40	170-118	400-196	1300-297	7000-364
50-44	180-123	420-201	1400-302	8000-367
55-48	_ 190-127	440-205	1500-306	9000-368
60-52 🖓	200-132	460-210	1600-310	10000-370
65-56	210-136	480-241	1700-313	^a 15000-375
70-59	220-140	500-217	1800-317	20000-377
75-63	230-144	550-226	1900-320	30000-379
80-66	240-148	600-234	2000-322	40000-380
85-70	250-152	650-242	2200-327	50000-381
90-73	260-155	700-248	2400-331	75000-382
95-76	270-159	750-254	2600-335	100000-384

Appendix 10: Table for Required Sample Size at the 5% Confidence Interval

Source: Krejcie and Morgan (1970).

Appendix 11: Literature Review Summary Table

S/No.	Author(s)/year/	Independent Variables	Results and Recommendation	
SITTO	Location	(IVs)		
1	Andre P. Liebenberg& Robert E. Hoyt, 2003,USA	Size, industry, earning volatility, stock price volatility, average leverage, av. Mkt. to book- ratio, financial operating average %,institutional ownership, UK Canadian Subsidiaries	No. differences in the financial and ownership characteristics. Findings indicate that firms with greater financial leverage are more likely to hire CRO. Appointment of CROs will reduce information asymmetry with regards to firms expected risk profile. Recommend further studies on ERM adoption determinants particularly organisational structure.	
2	Donal Pagach, 2007, USA	Financial characteristics, Assets characteristics, Market characteristics, managerial incentives, controls	Study reveals that firms that are more leverage and have poor stock market performance are likely to commence ERM programme. If value of CEOs option and stock portfolio is increasing in stock volatility, the firm is more likely to adopt ERM practices.	
3	Robert E Hoyt &Andre P. Liebenberg, 2008,USA	Size, institutional ownership, diversification, industry, ERM engagement, leverage, profitability, industrial diversification, international diversification, dividend policy, growth opportunity	Results show that size and institutional ownership are positively related to ERM deployments, and negatively related to reinsurance use and leverage. The study reveals a positive relation between firm value and the use of ERM. Recommend further studies on the determinants of ERM implementation using questionnaire and other methods other industries	
4	Lawrence A. Gordon, Martin P. Loeb &Chih-Yang Tseng, 2009, USA	ERM and Firm Performance	The findings show that firms should consider the implementation of an ERM practices in conjunction with contextual variables surrounding the firms.	

Literatu	ire review on ERM in	plementation based on o	quantitative metl	hod using secondary data
Table 2.4	4 Literature Review S	ummary Table (Seconda	ary Data)	

Martin F. Grace, J. TylerCROs, dedicated riskrisk management entities that report to CFOs witness higher efficiency cost and return on assets, life insures benefit from the development and use of economic capital model to a greater extent than property casualty insurers.6Don Regach &Richard Warr, 2010,USARisk characteristics financial characteristics stats characteristicsFirms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption reates value.7Don Regach &Richard 2011,USAPagach Financial characteristics Size, leverage, cash ratio, tax save, SDCF%. Assets characteristic SDRET%Study reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The studies recommed further research on the evolution of firms ERM programmes.7Muhammed Altuntas, ThomasManagerial career concerns, performance, organisationiThe researchers postulate that to management s decision to adopt ERM is influenced by managerial career concerns. If performance declines, top management may get fire fired and
5Tyler Richard D. Philips & Prakash Shimpi, 2010,USACROs, dedicated risk committee and risk management entities.CFOs witness higher efficiency cost and return on assets, life insures benefit from the development and use of economic capital model to a greater extent than property casualty insurers.6Don & Pagach & Risk & Risk & Characteristics, financial characteristics Bank characteristicsFirms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption creates value.7Don & Pagach & Richard 2010,USARisk financial characteristics Size, leverage, cash ratio, tax save, SDCF%. Assets characteristic Size, leverage, cash ratio, tax save, SDCF%. Assets characteristics SDRET%Study reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The studies recommend further research on the evolution of firms ERM programmes.7Muhammed Altuntas, ThomasManagerial career concerns, performance, organisationalThe researchers postulate that top management may get fire freed and
5Richard D. Philips & Prakash Shimpi, 2010,USAcommittee and risk management entities.and return on assets, life insures benefit from the development and use of economic capital model to a greater extent than property casualty insurers.6Don & Pagach & Risk characteristics, financial characteristics aback characteristicsFirms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tire1 capital are also more likely to hire CRO. The studies recommend further research on the evolution of firms ERM programmes.7Muhammed Altuntas, ThomasManagerial career concerns, performance, organisationalThe researchers postulate that top management may get fire fred and
& Prakash Shimpi, 2010,USAmanagement entities.benefit from the development and use of economic capital model to a greater extent than property casualty insurers.6Don & Pagach & Richard 2010,USARisk financial characteristicsfirms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption creates value.7Don & Pagach & Richard 2010,USAFinancial characteristics Size, leverage, cash ratio, tax save, SDCF%. Assets characteristic Size, leverage, cash ratio, tax save, SDCF%. Assets characteristicsStudy reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The studies recommend further research on the evolution of firms ERM programmes.7Muhammed Altuntas, ThomasManagerial career concerns, performance, organisationalThe researchers postulate that top management 's decision to adopt ERM is influenced by managerial career concerns. If performance declines, top management may get fire fired and
2010,USA of economic capital model to a greater extent than property casualty insurers. 6 Don Pagach & Risk characteristics, financial characteristics, 2010,USA Firms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption creates value. 7 Don Pagach & Financial characteristics Study reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The SDRET% 7 Muhammed Altuntas, Thomas Managerial career concerns, performance, organisational
6Don & Richard 2010,USARisk (financial bark characteristics)Risk (characteristics) (financial characteristics)Firms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption creates value.7Don & Pagach (financial characteristics)Study reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The studies recommend further research on the evolution of firms ERM programmes.7Muhammed Altuntas, ThomasManagerial career concerns, performance, organisationalThe researchers postulate that top management may get fire fired and
6 Don Pagach & Risk characteristics, financial characteristics, financial characteristics, assets characteristics and Bank characteristics Firms implementing ERM witness a reduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption creates value. 7 Don Pagach & Financial characteristics Study reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The studies recommend further research on the evolution of firms ERM programmes. Muhammed Altuntas, Thomas Managerial career concerns, performance, organisational The researchers postulate that top management may get fire fired and
6Don &Richard 2010,USARisk inancial characteristics Assets bank characteristicsreduction in earnings volatility. The study finds little impact from ERM adoption on a wide range of firm variables. The study fail to support that ERM adoption creates value.7Don Pagach &Richard Don Pagach &Richard 2011,USAFinancial characteristics Size, leverage, cash ratio, tax save, SDCF%. Assets characteristic Assets characteristic Size, leverage, cash ratio, tax save, SDCF%. Assets characteristic Assets characteristic Opacity, sales growth, market to book. Market SDRET%Study reveals that ERM adoption is for direct economic benefit rather than comply with regulation. Furthermore, firms that are large, more volatile, and have greater institutional ownership are more likely to implement ERM. in addition, finding reveals that Banks with lower levels of tirel capital are also more likely to hire CRO. The studies recommend further research on the evolution of firms ERM programmes.Muhammed Altuntas, ThomasManagerial career concerns, performance, organisational
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management may get me med and
R. BERRY- form, business might implement FPM to indicate that
Stolze, & Robert E. concentration, size, capital
Hoyt, 2011, to assets, group membership study further reveals that negative
Germany &tax expenses.
increase a firm's probability to
adoption.
Robert E. Hoyt Size, leverage, sales growth, Findings show positive relation
&Andre P. ROA. Div-Ind, Dividends, between firm value and the effect of
9 Liebenberg 2011 Insider life onacity Beta ERM on firm value The ERM
Electricely, 2011 instately, inte, opueny, Beau, Electricely inter Electric

		use, slack, value change ,	and economically significant.
		CV(EBIT) & LagInsdret	Recommend further research using
			larger samples and refined such as questionnaire.
10	Thomas R. Berry Stolzle &Jianren Xu, 2013, USA	ERM Adoption with Cost of capital as DV.	The findings reveal that ERM adoption significantly reduces firms cost of capital. The research further suggest that the cost of capital benefits determines how ERM can create value
11	Nadine Gatzert &Micheal Martin, 2013,Germany	Company size, financial leverage, earnings, cash flow volatility, asset opacity, growth opportunity, Diversification, institutional ownership.	Based the reviewed literature the result indicates that the company size and the level of institutional ownership are significantly positively related to the implementation of ERM. ERM has impact on corporate value and performance.





Universiti Utara Malaysia

S/No	Date	Title	Standards body/ Publisher
1	1995	AS/NZS4360: 1995 Risk Management	Standards Australia, Homebush
2	1999	AS/NZS4360: 1999 Risk Management	NSW 2140, Australia, and
3	2004	AS/NZS4360: 2004 Risk Management	StandardsNewZealand,Wellington, 6001, New Zealand
4	1997	CAN/CSA-Q850-97, Risk Management Guideline for Decision Makers	Canadian Standards Association, Ontario, Canada
5	1996	BS 8444-3: 1996 Risk Management-Part 3Guide to risk Analysis of Technological Systems	British Standards Institution, London, UK.
6	2000	BS 6079-3: 2000 Project Management- Part 3 Guide to the Management of Business- related Project Risk	British Standards Institution, London, UK.
7	2000	PD 6688:Managing Risk for Corporate Governance	British Standards Institution, London, UK.
8	2002	PD ISO 31000/IEC Guide 73: 2002, Risk Management- Vocabulary- Guidelines for use in Standards	British Standards Institution, London, UK.
9	2001	Guidelines for Development and Implementation of Risk Management System	Japanese Standards Association Tokyo, Japan
10	2001	IEC 62198: 2001, Project Risk Management- application System	International Electronical Commission, Switzerland
11	2001	New Basel Capital Accord- Consultative Document	Basel Committee on Banking Supervision
12	2002	A Risk Management Standard	Institute of Risk Management (IRM) Association of Insurance and Risk Managers (AIRMIC) and National Forum for Risk Management in the Public Sector (Alarm), London
13	2004	ISO 14001: 2004, Environmental Management Systems- General Guidelines on principles, Systems and Support Techniques	Internal Organisation for Standization, Geneva, Switzerland.
14	2004	Enterprise Risk Management –Integrated Framework	The Committee of Sponsoring Organisations of the tread Way

Appendix 12: Risk Management Frameworks, Standards And Guidelines

			Commission, USA
		2011 SEC Code of Corporate Governance	Nigerian Code of Corporate
	2011	in Nigeria	Governance and International Best
15		CBN issued Exposure Draft CODE for	Practice on Corporate Governance
	2012	Banks in Nigeria in 2012	CBN issued Exposure Draft CODE
			for Banks in Nigeria
16	2012	Malaysian Code on Corporate Governance	Malaysia Code of Corporate
		2012 (MCCG, 2012)	Governance

Source; (Adapted from Manab, (2009) as adopted from Hillson, 2006). The standard was being updated and reissued from time to time





Appendix 13: Implementation of Sustainable Banking Principles for ERM Implementation



Tel: E-mail: fprd@rbs.goving September 24, 2012 CENTRAL BANK OF NIGERIA

Financial Policy & Regulation Department Central Business District PM.B. 0157 Genki, Abuja

FPR/DIR/CIR/GEN/01/33

Circular to all Banks, Discount Houses and Development Finance Institutions

IMPLEMENTATION OF SUSTAINABLE BANKING PRINCIPLES BY BANKS, DISCOUNT HOUSES AND DEVELOPMENT FINANCE INSTITUTIONS IN NIGERIA

The Bankers' Committee, at its retreat of July 14, 2012, approved the adaption of the Nigeria Sustainable Banking Principles by banks, discount houses and development finance institutions in Nigeria. This is in further ance of the Bankers Committee's commitment to deriver positive development impacts to society while protecting the communities and environment in which financial institutions and their clients operate.

To enable effective implementation of these principles, the following documents, which were considered of that meeting, are hereby issued to banks discount houses and development finance institutions:

- 1) The Nigeria Sustainable Banking Principles
- 2) The Nigeria Sustainable Banking Principles Guidance Notes:
- 3) Nigeria Sustainable Banking Principles Power Sector Cuidelines:
- Nigerla Sustainable Banking Principles Agriculture Soctor Guldelines: and
- Nigeria Sustainable Banking Principles OL and Gas Sector Guidelines.

Appendix 14: Nigerian Map Showing cities For Location Of Studies In The Nigerian

Map

