

THE EXTENT OF ENTERPRISE RISK MANAGEMENT IMPLEMENTATION IN THE NIGERIAN BANKING SECTOR

Ishaya John Dabari* and Siti Zabedah Saidin**

Abstract: *There has been an unprecedented increase in the number of organisations adopting enterprise risk management (ERM) process in their operations across the world in recent times, due to its growing importance and influence. The quality of a satisfactory analysis is known by the quality of preliminary data screening and treatment. The primary aim of this research paper is to present data screening and preliminary analysis on the stage of ERM implementation in the Nigerian banking sector. Seven hundred and twenty-two questionnaires were distributed in three hundred and sixty-one branches of twenty-one commercial banks across the country. Data were entered into the Statistical Package for Social Science (SPSS) version 20. Data screening and cleaning were carried out to meet the assumption of the multivariate analysis. Consequently, analyses of missing data, outliers, descriptive statistical analysis, multicollinearity and confirmatory factor analysis (CFA) were performed through principal components analysis (PCA). The data will be subjected to further analysis using Logistic regression. Based on the preliminary result, the study has indicated that the data meet the requirements for subsequent multivariate analysis.*

Keywords: *Enterprise risk management, Banking sector, Preliminary analysis, Data screening, Multicollinearity*

1. INTRODUCTION

Data screening and management in multivariate analysis is central to quantitative research because it lays a solid foundation for any meaningful results. Initial data screening and management ensures high quality analysis that can be generally accepted by the academic community and the practitioners. However, this stage of study is mostly neglected by young researchers, perhaps due its complexity and the burden associated with such exercise (Abdulwahab, Dahalin & Galadima, 2011). Failure to ensure proper data screening and treatment has the impact of poor quality output and cast doubt on the validity and reliability of the outcome. Data screening requires serious attention in order to attain consistency and accuracy

* School of Accounting (SOA), College of Business (COB), Universiti Utara Malaysia, Sintok, 06010, Kedah Darul Aman, Malaysia, E-mail: veedabari@gmail.com

** School of Accountancy (SOA), College of Business (COB), Universiti Utara Malaysia Sintok, 06010, Kedah Darul Aman, Malaysia

when conducting any analysis. Therefore, data screening is as an important factor to be accorded due consideration in research. This process of data screening and preliminary analysis has significant impact on any research analysis which will guarantee good outcome (Tabachnick & Fidell, 2007).

In order to guarantee accuracy of data, there is need for proper proof reading and checking of the data for errors (Tabachnick & Fidell, 2007; Saidin, 2014). Pallant (2011) opined that at the initial stage of any data analysis, it is expedient to screen and treat it to reduce errors because mistakes can easily be committed. This is made possible by the process of scrutinising the data through data screening and descriptive statistics using the relevant computer system software such as Statistical Packages of Social Science (SPSS) or any other relevant software. The application of such software will also enable the researcher unveil hidden errors which ordinarily will not have been discovered. According to Hair, Black, Babin, and Anderson (2014), researchers who carry out data screening and scrutiny stand to gain two crucial benefits. Firstly, the researcher is likely to gain knowledge of the interrelationships existing among variables which will enhance understanding and interpretation of outcomes. Secondly, it will enable the researcher to comprehend the assumptions of multivariate data analysis through appropriate data screening and examination.

Consequently, the data set for this study has been subjected to data screening and treatment with respect to missing values, outliers, multicollinearity, response rate and Confirmatory factor analysis (CFA) performed through principal components analysis (PCA). Therefore, the main objective of this paper is to report the data screening and preliminary analysis employed to examine the stage of enterprise risk management (ERM) implementation in the Nigerian banking sector. The following sections consist of the literature review, methodology, result and discussion, and then, conclusion.

2. LITERATURE REVIEW

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. 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.

From the literature, there are varied definitions of risk management (D'Arcy & Brogan, 2001). Risk management is a process which involves the system of identifying, evaluating, planning, communicating and managing risks. The process of change from traditional risk management (silos) approach to ERM system is also

known as a paradigm shift (Kleffner, *et al.*, 2003; 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, 2001). Enterprise risk management has now become an important issue for the business, industries and the academia, broader in scope and have been included in corporate philosophy.

Several definitions of ERM have been given by different people ((Dickinson, 2001 Lam, 2000; Colquitt, Hoyt, & Lee 1999). The Committee of Sponsoring Organizations of the Treadway Commission (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. 2).

The COSO vision of focusing on risk management integration has become a standard of practices across the world. Based on the literature, ERM is much more important in the financial sector, particularly the banking sector than other industries because of the complexity and opaque nature of their businesses (Beasley *et al.*, 2005). They also face risks associated with terrorism, technology, human capital, reputation, regulatory power, globalization, and diversification since they are operating in a volatile environment (Carey, 2001). Several studies lend support to the value addition of ERM and its enhancement of organizational performance (COSO, 2004; Nocco & Stulz, 2006; Hoyt & Liebenberg, 2011). Enterprise risk management is synonymous with, corporate risk management, ‘business risk management, ‘integrated risk management, holistic risk management, strategic risk management and Enterprise-wide risk management (D’Arcy, 2001).

Hoyt and Liebenberg (2011) examined the extent to which specific firms have implemented ERM programs and reveals that there is a positive relationship between firm value and the use of ERM. In addition, Manab, Kassim and Hussin (2010) examined the drivers and the success of Enterprise -wide risk management (EWRM) implementation and finds that EWRM concepts and its efforts have become a growing concern among Public Listed Companies (PLCs) in Malaysia. Kleffner, *et al.* (2003) equally examined the application of ERM by business enterprises in Canada and revealed that only (31 percent) of the sample had adopted ERM.

Similarly, Beasley, Clune and Hermanson (2005) examined factors associated with the extent of ERM implementation at a diverse US and international organizations. The findings also discovered that US organizations have lower level of ERM practices than international organizations. Daud, Haron and Ibrahim (2011) note while examining the level of ERM adoption claimed that only 43 percent of public companies in Malaysia had a complete ERM adoption in their area and 57

percent as partially adopted. In the same vein, Aebi, Sabato, & Schmid, (2012) assert that there are improper ways of practicing ERM program in banks.

A further review of the literature showed that 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 sector. Ernst and Young (2010) conducted a study on risk governance and found that only 14 percent of the respondents at nearly 40 international banks documented that they have an integrated view of risk across their respective companies. The practitioners claim that the majority of banks need enterprise-wide understanding of risk management.

In Nigeria, ERM is still at its elementary stage. The Central Bank of Nigeria (CBN) Governor (Sanusi) asserts that risk management is still at a rudimentary stage in Nigeria (CBN, 2012). The failure of the Nigerian financial institutions in 2009 was attributed to poor corporate governance, lack of risk management practices, corruption and lack of transparency among the board of directors and top management. There was also ineffective regulatory system coupled with weak and corrupt board of directors (CBN 2012, Akpan & Amran, 2014). Lamentably, despite the numerous benefits of ERM, little is known about the extent of its implementation in the banking sector. There are also scarce research on ERM practices in Nigeria, as only few studies are available in the literature on ERM (Adekun, Ishola & Felix, 2011; Boniface, & Ibe, 2012; Fadun, 2013; Njogo, 2012; Owojori, Akintoye & Adidu, 2011). All these studies failed to provide empirical evidence on the extent of ERM implementation in the Nigerian banking sector as well as the antecedents for the implementation. Therefore, the main purpose of this paper is to report the data screening and preliminary analysis implored to examine the stage of enterprise risk management (ERM) implementation in the Nigerian banking sector.

3. RESEARCH MODEL

The proposed model for this research includes; five variables that are proposed to influence the stage of ERM implementation. They include regulatory influence (RIS) internal audit effectiveness (IAE), human resource competency (HRC), and top management support and commitment (TMC) with moderating effect of board characteristics (BCS) on the relationships between the independent variables and the stage of ERM implementation (SERM), which is the dependent variable.

4. METHODOLOGY

The study adopted descriptive method through cross sectional data. The data was collected through questionnaire. The questionnaire was administered to the staff of risk management department, internal audit and other departments of the twenty one (21) commercial (Money Deposit Banks, MDB) banks in Nigeria (CBN, 2012).

The questionnaire was administered to the staff of the various banks in three hundred and sixty one (361) branches across the country and the respective headquarters of the banks through drop and pick procedure with the help of research assistants engaged by the researcher. The population of this study covers the entire commercial (MDBs) banks licensed by the CBN operating as at 31st of December, 2012. Therefore, the total banks operating in Nigeria as at 31st December, 2012 (CBN, 2012) is twenty one (21) with total branches of 5634 spread across the country. The sample size is 361 (Krejcie and Morgan, 1970). However, in order to elicit high response rate and due to non-response bias problem, the sample size has been doubled to 722 respondents. This is in line with Hair *et al.*, (2010). The larger the sample size, the better the result (Coakes, Steed & Ong, 2010; Pallant 2011). The sampling technique was stratified random sampling. The technique was chosen because it is more efficient and provides more information on a given sampling size (Sekaran & Bougie, 2009). The respondents were stratified into top, middle and lower level managers. The percentage distribution of questionnaire to the commercial banks was based on size and the spread of branches across the country. The questionnaire were distributed in eight cities across the six Geopolitical zones of Nigeria as reflected in table 1. The completed questionnaires were collected through the research assistants in order to facilitate quick retrieval of completed research questionnaire and also to provide high response rate. The Data was keyed into SPSS version 20 for further analysis.

5. RESULTS AND DISCUSSION

5.1. Questionnaire administration

Seven hundred and twenty two questionnaires were sent out to the commercial (MDBS) banks in Nigeria in order to get high response rate. Out of the number, 497 questionnaires returned. 435 questionnaires representing 60 percent were found usable while 62 questionnaires were rejected for analysis due to incomplete filling or lack of proper completion/outliers. Hair *at al.*, (2010) suggested that a response rate of 30 percent is sufficient for survey.

5.2. Missing Data

The impact of missing data on any research findings is critical because it can invariably affect the generalizability of the result of the study. It can also reduce the amount of sampling size that will be used for analysis (Abdulwahab *et al.*, 2011). The failure of a researcher to properly detect and treat missing data is capable of having negative effect on the result of empirical research; therefore, much attention must be paid to data screening. The researcher ensured that data was correctly entered and properly coded, well proof read. The pattern of the missing values was also checked to see whether it was randomly or if there was some

pattern in the occurrence (Tabachnick & Fidell, 1996). After keying in the data into SPSS, a preliminary descriptive statistics was conducted to identify the occurrence of missing values. Out of the 435 questionnaire keyed in, only 18 missing values were found which constitute 4.3 percent of the dataset, which is less than 5 percent allowable (Cavana, Delahaye, & Sekeran, 2001). The missing values were treated and replaced with variable mean option. This method is used because it is simple to execute and time effective. Even though it is the simplest option but it can lower variability with the resultant effect of bias results.

5.3. Assessment of Outliers

To ensure further data screening, an assessment and treatment of outliers was carried out. Coakes, Steed and Ong (2010) define outliers as any observations which are numerically distant in comparison with the other data set. There are many and diverse methods of detecting outliers in the literature. Among which are, the classification of data points based on calculated and observed Mahalanobis distance (D₂) based on the research expected values or items in the variable (Hair, Black, Babin & Anderson, 2010). The proponent of this method argued that outlier treatment based on Mahalanobis distance is an effective means of detecting outliers. This research utilized the table Chi-square statistics to determine the optimal values as a threshold. More than thirty outlier cases were detected but only twenty were deleted due to mahalanobis distance value. However, not all the outlier's values were deleted because those near the cut off points were retained. Finally, 415 questionnaire were left for further analysis.

5.4. The Respondents demographic and background statistics

From the descriptive statistics of the study, it is revealed that 62 percent of the respondents were male while 38 percent were female. This implies that majority of the bank staff are male since the percentage of male almost twice the percentage of female in the Nigerian banking sector. This disparity could be as a result of socio-cultural practices where by female were restricted from attending formal education in some parts of the country. Therefore, majority of the risk management staff, internal auditors and other department's staff were male. This is supported by the study on internal audit effectiveness in Nigeria by Badara & Saidin (2014) who revealed that 75 percent of the respondents were male while 25 percent were female. In addition, the respondent's age that were less than 30 years has 17 percent, respondents between the age of 31-40 years old has 53 percent which is the highest. This is closely followed by those between the age of 41-50 with 28 percent while those who were 51 years and above, has 2 percent. The highest age group of the respondents is within the range of 31-40 representing 53 percent which is the productive age in the public service hence they are likely to be more resourceful and effective which enhances competency level of the bank staff. It is also noted

that since most of the respondents were within the productive age groups, it can be concluded that their answers can equally be fair and credible.

With respect to the category of the respondents, Top management were 3.9 percent, followed by middle level management with 34.4 percent and finally, lower level management has 61.9 percent. This means that majority of the respondents were lower level managers and other officers of the bank. This is not surprising since majority of the respondents were from the branches because most of the branch staff were of officer's cadre and lower level managers who were probably the branch managers. At the departmental level, risk management/internal control have 27 percent, internal audit has 23 percent while lastly, and other departments have 51 percent.

The highest level (designation) of respondents is the Board Committee Members which has the least of 1 percent while the highest is the other category of staff such as officer cadre with 35 percent. This is closely followed by Managers representing 34 percent, Principal Managers 14 percent, Deputy General Managers 8 percent, General Managers, 5 percent and Executive Directors is 2 percent. 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 shows that the respondents caught across of all categories of staff within the Nigerian banking system. With respect to working experience, the preliminary analysis revealed that 25 percent of the respondents have working experience from 1-5 years. This is followed by the respondents that have experience of 6-10 years which is 41 percent. In the same vein, 34 percent of the respondents have the working experience of 10 years and above. In view of the above, it could be concluded that the respondents have enough working experience in the banking sector to answer the questionnaire.

For educational background of the respondents, preliminary analysis revealed that 59 percent of the respondents have Bachelor Degree or Equivalent which has the highest percentage, followed by Master's Degree 35 percent and GCE, A level, Diploma or equivalent is 4 percent. Lastly, is the Doctoral Degree with the least of 2 percent. The academic qualification of the respondents is quite impressive and attests to the high calibre of staff required in the banking sector for ERM implementation. Forty six (46) percentage of the respondents agreed that they belonged to professional bodies while 54 percent do not. This is in line with the above qualification. The respondents are members of different accounting professional bodies which are stated as follows with the percentage of membership. Membership of Association of National Accountants of Nigeria (ANAN) is 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 other professional bodies may be related

to the banking sector such as Chartered Institute of Bankers of Nigeria (CIBN). This indicates that a reasonable percentage of the staff of the banks are professionally qualified.

5.5. The Bank background characteristics

Majority of the respondents agreed that their banks have been in existence for 21 years and above with 69 percent while others agreed that their banks are 16-20 years old with 5 percent. This shows that majority of the banks are over 21 years old. With respect to listing on the Nigerian Stock Exchange (NSE), 92 percent of the respondents indicated that their banks have been listed on NSE while only 8 percent were of the opinion that their banks have not been listed on NSE. This could be due to the fact that some banks have been in existence for less than five (5) years as reflected above. Therefore, they are still going through the process of listing. The presence of chief risk officer (CRO) attracted 98 percent from the respondents which shows the extent of ERM implementation in the Nigerian banks. The appointment of CRO was used as a proxy for signalling the adoption and implementation of ERM by several researchers (Liebenberg & Hoyt, 2003; Kleffner et al, 2003; Lam, 2000). However, such implementation could be complete or partial as it was mandatory for every bank to implement ERM (NSE, 2006; CBN, 2012).

With respect to auditor type engaged by the Nigerian banks, Big four (Big4) auditors has 65 percent while non big4 has 35 percent. This shows that both the big4 and non big4 are still being engaged by the Nigerian banks. By implication, some banks seemed to be satisfied with the quality and services rendered by the local auditors and do not mind engaging them, while majority of the banks prefer high quality auditors such as a big4 to ensure international best practices.

In terms of bank total assets, most of the respondents indicated that their assets base is between 76-100 Billion Naira representing 43 percent while others agreed that it ranges from 101 Billion Naira and above representing 36 percent. Similarly, some are of the opinion that it ranges from 51-74 Billion Naira representing 11 percent while others agreed that it ranges between 20-50 Billion Naira representing 9 percent. This indicates that the Nigerian banks have strong and adequate capital base to meet up the minimum capital requirement of 25 Billion Naira by the regulatory authority since 2005 (CBN, 2006; Onalapo, 2008, Yauri, Musa & Kaoje, 2012). This capital adequacy has enabled Nigerian banks to transact beyond borders and maintain a capital adequacy ratio (CAR) of at least 15 percent, 5 percent over and above minimum requirement by CBN (IMF, 2013). 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 is 121 and above representing 92 percent while some stated the range of 91-120 branches

representing 4 percent. This reflects the networking and complexity of the Nigerian banking operations coupled with cross border expansion and co-ordination. The respondent's characteristics and the banks background are reflected in Appendix 1 below.

Despite the fact that the stage of ERM implementation (SERM) in the Nigerian banks was categorised into five (5) items, the respondents unanimously ticked complete ERM in place and partial ERM in place and failed to tick the rest. The percentage of complete ERM in place was 70 percent while partial ERM in place was 30 percent. This shows that there is significant level of compliance with CBN directive on ERM implementation. This study is actually an extension of the studies by (Beasley et al., 2005; ; Daud et al., 2011; Desender, 2007; Kleffner, 2003; Manab & Kassim, 2012). However, the conclusion on the DV cannot be made now because it will be subjected to further statistical analysis using logistic regression. The descriptive statistics of the study is reflected in appendix 3.

As regards the current focus of risk management, the mean values range from 4.55 to 4.42 with the highest std. deviation below 1 which is .795 and the least is .680. Similarly, the mean values for development of ERM framework in the bank range from 4.51 to 4.06 with std. deviation below 1 and values ranging from .860 to .735. In terms of the motivation to adopt ERM, the mean ranges from 4.54 to 4.25 while the std. deviation ranges from .964 to .704. Finally, for the areas of risk which present the greatest threats and become a priority to the banks, the mean ranges from 4.52 to 4.10 and std. deviation ranges from 1, 071 to .770. All these met the basic requirement for further analysis. See appendix 3 for details.

6. MULTICOLLINEARITY

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 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). Multicollinearity cases can be detected and managed by deleting the affected variables. Table 2 present the correlation for the variables. To detect multicollinearity in this study, Pearson correlation of SPSS was employed as shown in Table 2. Examining table 2 below, it is obvious that there is no variable that is highly correlated with one another. In view of the fact that the correlation values are well below the threshold of 0.9, it can be concluded that there is no multicollinearity problem among the variables under investigation.

Table 2
Correlation of Constructs in the measurement Model

<i>Construct</i>	1	2	3	4	5	6
1) Top management commitment	1					
2) Human resource competency	.393	.312	1			
3) Regulatory influence support	.434	.458	.209	1		
5) Board characteristics support	.284	.193	.274	.137	1	
6) Internal audit effectiveness	.443	.388	.313	.422	.188	1

Note: Off diagonal elements are the correlations among constructs

7. CONVERGENT VALIDITY, DISCRIMINATE VALIDITY AND CRONBA ALPHA

Convergent validity was scrutinized using average variance extracted (AVE) (Hair et al., 2010) to establish construct validity for this study. The test indicates how constructs are converged and share a high proportion of variance on a standard point, known as the latent construct. Average variance extracted is calculated as the mean of variance extracted for the items loading on a construct. Discriminant validity evaluates the degree to which a construct is different from other constructs (Hair et al., 2010). Therefore, a high level of discriminant validity suggests that a latent variable is distinctive and captures some phenomena that other variables do not. The AVE should be greater than the square correlations estimate (Hair et al., 2010). For this study, the reliability of all items was assessed through the Cronbach Alpha, factor loadings, and composite reliability (See Table 3 below).

Table 3
Factor Loading, AVE, Cronba Alpha and Composite Reliability

<i>Construct</i>	<i>Items</i>	<i>Loadings</i>	<i>AVE</i>	<i>Cronba Alpha</i>	
<i>CR</i>					
Top management commitment	TTMC10	.880	.622	.828	.867
	TTMC9	.821			
	TTMC7	.748			
	TTMC8	.692			
Human resource competency	THRC6	.873	.637	.754	.838
	THRC7	.867			
	THRC5	.631			
Regulatory influence support	TRIS2	.886	.637	.758	.839
	TRIS1	.784			
	TRIS4	.715			
Board characteristics support	TBCS7	.769	.513	.610	.759
	TBCS8	.709			
	TBCS6	.667			
Internal audit effectiveness	TIAE2	.852	.547	.680	.781
	TIAE3	.714			
	TIAE5	.636			

From the table 3, the values of Cronbach Alpha and Composite reliability do not show any significant differences. The Cronbach Alpha values range from 0.610 to 0.828 while the composite reliability varies from 0.759 to 0.867 which are greater than the threshold of 0.7. The factor loadings are all above the threshold of 0.5 and have fallen within its components. However, some items were deleted. (See Appendix 2 for details on factor loading)

8. CONCLUSION

The primary objective of data screening has been realized by replacing missing values with variable mean approach and outliers deleted based on Mahalanobis distance. From the above, it could be concluded that the data was screened and cleaned for further analysis. Preliminary analysis involves test of multicollinearity that was absent. Response rate also computed. Convergent validity, Discriminant validity and Composite reliability were all computed and met the entire minimum threshold. In the same vein, the factor loadings and AVE are above the acceptable threshold. This attests to the fact that the items are measuring different constructs as theorized. Conclusively, the data has fulfilled the central assumptions and conditions for conducting a further multivariate analysis.

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Appendix - 1

Table 1
Characteristics of the respondents (n=415)

<i>S/NO</i>	<i>Characteristics</i>	<i>Number</i>	<i>Percentage</i>	
1.	Gender	Male	258	62.2
		Female	157	37.8
2.	Age of respondents	Less than 30 years.	72	17.3
		31-40 years.	218	52.5
		41-50 years.	115	27.7
		51 years and above	10	2.4
3.	Category of staff	Top Management	16	3.9
		Middle level Management	142	34.2
		Lower level Management	257	61.9
4.	Department	Risk management Dept.	112	27.0
		Internal Audit Dept.	91	21.9
		Others	212	51.1
5.	Designation	Board committee member	6	1.4
		Executive Director	9	2.2
		General Manager	22	5.3
		Deputy Gen. manager	33	8.0
		Principal manager	57	13.7
		Manager	141	34
6.	Experience	Others	147	35.4
		1-5years.		
		6-10 years.	104	25.1
		10 years and above	168	40.5
7.	Qualification		143	34.5
		Doctoral Degree		
		Master's Degree	9	2.2
		Bachelor Degree or Equivalent	146	35.2
		GCE or o level equivalent	243	58.5
8.	Membership of professional bodies		17	4.1
		yes		
		No	191	46
			224	54
9.	Various accounting professional bodies	None		
		ANAN	224	54
		ICAN	55	13.2
		CIMA	73	17.6
		ACCA	13	3.1
		IIA	11	2.7
		Others	10	2.4

contd. table

<i>S/NO</i>	<i>Characteristics</i>	<i>Number</i>	<i>Percentage</i>
10.	Age of bank	29	7
	Less than 5 Years		
	6-10 Years	45	10.8
	11-15 Years	42	10.1
	16-20 Years	22	5.3
	21 Years and above	19	4.6
		287	69.2
11.	Bank listing on NSE	381	91.8
	Yes		
	No	34	8.2
12.	Presence of CRO	408	98.3
	YES		
	NO	7	1.7
13.	Auditor type	268	64.6
	Big4		
	None Big4	147	35.4
14.	Total assets	5	1.2
	Less than 25billion Naira		
	20-50 billion Naira	37	8.9
	51-75 Billion Naira	46	11.1
	76-100 Billion Naira	179	43.1
	101 Billion Naira and above	148	35.7
15.	Total number of branches	7	1.7
	Less than 30 branches		
	31-60 branches	4	1.0
	61-90 branches	5	1.2
	91-120 branches	18	4.3
	121 branches and above	381	91.8
DV: Stage of ERM (SERM)	Partial ERM in place	125	30.1
	Complete ERM in place	290	69.9

Appendix 2**Table 2**
Factor Analysis and Reliability (Cronbach's Alpha)

	<i>Items</i>	1	2	3	4	5	6
Top management commitment	TTMC10	.880					
	TTMC9	.821					
	TTMC7	.748					
	TTMC8	.692					
Information security management	TISM7		.773				
	TISM5		.758				
	TISM8		.693				
	TISM6		.679				
Human resource competency	THRC6			.873			
	THRC7			.867			
	THRC5			.631			
Regularitory influence support	TRIS2				.886		
	TRIS1				.784		
	TRIS4				.715		
Board characteristics support	TBCS7					.769	
	TBCS8					.709	
	TBCS6					.667	
Internal audit effectiveness	TIAE2						.852
	TIAE3						.714
	TIAE5						.636

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Appendix 3

Table 3
Descriptive statistics

<i>Items</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
The current focus of risk management efforts					
CFR1 CFR2	415	1	5	4.55	0.682
CFR3	415	1	5	4.46	0.776
CFR4	415	1	5	4.42	0.795
CFR5	415	1	5	4.48	0.715
CFR6	415	1	5	4.51	0.68
CFR7	415	1	5	4.51	0.688
	415	1	5	4.46	0.717
Development of framework in the bank					
DEF1					
DEF2	415	1	5	4.51	0.735
DEF3	415	1	5	4.15	0.86
DEF4	415	1	5	4.06	0.808
DEF5	415	1	5	4.06	0.852
	415	1	5	4.43	0.783
Motivations for the bank to implement ERM					
MEA1					
MEA2	415	1	5	4.62	0.735
MEA3	415	1	5	4.25	0.964
MEA4	415	1	5	4.54	0.782
MEA5	415	1	5	4.26	0.94
MEA6	415	1	5	4.47	0.704
	415	1	5	4.51	0.722
Areas of risk which present the greatest potential threats					
APT1					
APT2	415	1	5	4.27	0.954
APT3	415	1	5	4.52	0.792
APT4	415	1	5	4.43	0.836
APT5	415	1	5	4.27	0.815
APT6	415	1	5	4.52	0.77
APT7	415	1	5	4.21	0.971
	415	1	5	4.1	1.071
Valid N (listwise)	415				

