Market Orientation, Knowledge Management and Entrepreneurial Orientation as Predictors of SME Performance: Data Screening and Preliminary Analysis

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Abstract
The objective of this study was to conduct a Data gathering in respect to Data screening and preliminary analysis on the relationship between some Determinants of SME performance in Nigeria. A total of 640 respondents was chosen from small and medium enterprises in Kano State Nigeria. The study used disproportionate stratified probability sampling techniques; equally the exercises were carried in order to suit the assumption of multivariate analysis. In view of that, an assessment of missing data, identification of univariate and multivariate outlier and also, skewness and kurtosis were checked. Similarly, factor analysis through Exploratory Factor Analysis (EFA) was also carried out. The exercises were prepared in the Statistical Package for Social Science (SPSS) software version 20, and the preliminary analysis convinced that the data fulfill the condition of multivariate analysis. The findings indicated the possibility of undertaking further multivariate analysis.
Keywords: market orientation, knowledge management, entrepreneurial orientation, business environment, organizational culture, firm performance, SMEs and Nigeria.

1. Introduction
Small and medium enterprises are important avenues for job creation and a powerful source for innovation (Dauda & Akingbade, 2010). SMEs plays a significant role in sustainable socioeconomic development of a given country in terms of contribution to GDP, provision of employment, generation of wealth, poverty reduction, competence building and enriching the welfare of people through the provision of goods and services including education (Kanyabi & Devi,2011). SMEs in Nigeria has been an avenue for Job creation and empowerment of citizens proving about 60% of all job opportunities and also for wealth formation (Dauda & Akingbade, 2010). The sector had its own portion of problems as identified by (Ekpenyong & Nyong,1992; Oluboba, 2002; Sarapaivanich, & Kotey, 2006). which includes: poor market orientation, low level of entrepreneurial skills, poor management policies, constrained access to money and capital markets, low equity participation from the promoters because of insufficient personal savings due to their level of poverty and low return on investment, inadequate equity capital, poor infrastructural facilities, high rate of enterprise mortality, shortage of skilled manpower, multiplicity of regulatory agencies, societal and attitudinal problems, bureaucracy, integrity and transparency problems, lack of access to information given that it is costly, time consuming and difficult at times.

Conducting preliminary data screening has some benefits which include (1), the association among the constructs will give a good explanation of the outputs. (2), capability to satisfy the postulation of multivariate data analysis, which is more difficult than in univariate analysis. Hence, this study examined issues related to data screening and preliminary analysis in order to have a free error Data as recommended by (Hair et al., 2010,2013).

2. Literature Review
Preliminary data analysis has a significant role in most social science research (Gorondutse & Hilman, 2014; Hair, Hult, Ringle, & Sarstedt, 2013). Missing data as the name suggest represents a situation where either a respondent intentionally or accidentally refuses to answer one or more questions (Hair et al., 2013). For that reason, the value and the suggestive conclusion of the analysis is dependent to a large extent on the initial data screening (Maiyaki & Mouktar, 2011). Regrettably, this basic preliminary exercise is more often than not, been unobserved researchers possibly due to the weight attached to it (Hair et al., 2010, 2013). However, leaving this segment of data, preliminary would absolutely have an effect on the result value and/or the suitability of the type of analysis required. Although, according to Tabachnick and Fidell (2007) the best way of ensuring precision is all the way through proof reading of the original data in respect of the computerized data file. On the other hand, with big data set, proof reading is complicated or even unattainable (Maiyaki & Mouktar, 2011). For this reason, there is a need to investigate data through descriptive statistics using computer software. In this way, all the hidden errors that are not easily observed would be out (Hair et al., 2010, 2013). In addition, the authors observed that by preparing data assessment, researcher have at least two essential advantages (Hair et al., 2010). (a), whole understanding of the inter-associations among the constructs and as a result facilitates clear

description of the outputs. (b), capability to enchant the postulation of multivariate data analysis, which is more difficult than in univariate analyses. On a final note, this study examined issues related to data screening and preliminary analysis in order to have a free error Data as recommended by (Hair et al., 2010, 2013, Tabachnic & Fidell, 2014).

Firm performance is the outcome of several business factors, including work procedures, good communication and collaboration, sound corporate culture and image, policies, good governance, and environment that promotes innovation, vision, and devotion. Olosula (2011) defined the concept of performance as an ability to assess the level of success of a business organization be it small or big. Small business organization's performance can be assessed in terms of size, employment and pay, investment base as well as its effectiveness. According to Shariff, Peous and Ali (2010) measures of performance can be viewed from the objective that is more about the financial assessment of organizational performance such as return on equity, return on assets and sales growth. Trkman and McCormack (2009) asserted that performance measure is very crucial for business, more especially small firms due to the fact that it helps the organization to ascertain their level of organizational success or failure, and also serve as a yardstick for achieving acceptable progress in the business activities. Ukenna, Ijeoma, Anionwu and Olise (2010) viewed firm performance from two different viewpoints; monetary (financial) and non-monetary (non-financial) performance respectively. Financial performance, according to them consists of output, market share and profitability, whereas, non-financial performance includes customer satisfaction, innovation, workflow improvement. Mclarty, Pichanic and Srpova (2012) viewed performance to be the results of emergent strategy from perceived integration between strategic formulation and implementation as well.

Studies have shown that one of the construct that lead to SME performance is the market orientation. As the name implies, it refers to any deliberate attempt made to consider the needs and wants of customers as the priority. According to Nerver and Slater (1990) there are three behavioral elements with respect to the MO: 1) customer orientation; 2) competitor orientation; and 3) inter-functional coordination. Subsequently, there are several empirical literature conducted on knowledge management and organizational performance. Knowledge Management is the management of organizations information and possessions that can improve many characteristics of organizational performance so as to be more intelligent performing (Gupta, Iyer, & Aronson, 2000). Although knowledge management has been extensively studied by researchers and academics, there is not generally accepted definition of the concept. Defining knowledge management is not an easy issue because it is multi- disciplinary concept and involves a mix of strategies, tools, and techniques in gaining competitive advantage. Different scholars have presented so many definitions on the concept. It is a process of gaining, distributing and using knowledge in order to enhance firm performance.

However, other studies have shown the relevance of entrepreneurial orientation on performance. Research on entrepreneurial orientation (EO) has come to be a significant concept in the study of entrepreneurial firms or corporate entrepreneurship (Covin, Green & Slevin, 2006). Miller's (1983) viewed entrepreneurial firms as those that are taking risks, very innovative, and always being proactive. Lumpkin and Dess (2001) define entrepreneurial innovation as originality in introducing new products/services, and uniqueness, technical leadership and research and development in developing new processes, with respect to corporate entrepreneurship.

Several studies have really examined the impact of business external environment on firm performance. Hence, somebody of literature exists in this respect. For example, Lucky and Minai (2012) have asserted the relevance of external environment in ascertaining the success and/or failure of the entrepreneurial firms. However, the external factors refer to those factors that are beyond the control of a single business firm. According to Essia (2012) business environment is the set of legal and regulatory framework conditions, trade and investment rules, governance and institutions, and the overall policy situation that set rules for conduct of business, and effect positively or negatively the performance of markets, flow of investment, productivity, and the cost of doing business, these can either be from both internal or external settings and affect the smooth operation and function of an organization.

Organizational culture as a variable has been widely studied by researchers because of its possible linkage to performance. It refers to the systematic way of sharing values and beliefs that affect the entire members of such organization and their expectations (Schien, 1992). There is no generally accepted definition of organizational culture (Jones, Jimmieson & Griffiths, 2005). Many studies accepted Scheins' (1992) conceptualization which used a three dimensional view of organizational culture consisting of assumptions, values and artifacts. Assumptions are the basic beliefs about natural surroundings and the environment of the organization. They are also considered as the interpretive schemes that people use to perceive situations, thereby making sense and meaning of ongoing events, activities, human relationships, and also the basis of collective action which is formed over time and are passed from one generation to another. Values represent the shared beliefs and other rules that govern the outlooks and actions of employees. They are more visible displays identifying what is important to a particular cultural group. Artifacts on the other hand, are the most visible manifestations of culture. They include things such as: technology, language, rituals, and ceremonies and so on. Every organization has its

unique norms and values which are peculiar to its yearnings and aspirations, which inevitably includes values, norms, attitudes and behaviors that characterized the day-today functioning of that organization.

3. Methodology

This section provides the data assessment which was conducted with the help of both descriptive and inferential statistics using SPSS 20 version software. For example, simple descriptive statistics, Mahalanobis distance, correlation analysis were engaged. In addition, the sample of this study was drawn from the small and medium enterprises (SMEs) in Nigeria. Disproportionate stratified probability sampling design was used to collect the data. Hence, 448 usable responses were retrieved from the owner/managers of small and medium enterprises in Kano State Nigeria.

4. Result and Discussion

According to Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2012), there are 1829 SMEs in Kano which constituted the population of the study. The sample size was drawn from Kriejcie and Morgan (1970) table for sample size determination, based on its 320 SMEs were selected. In order to take care of none response rate and minimize error in sampling as suggested by Hair, Wolfinbarger and Ortinal (2008), the sample size should be double, hence, a total of 640 questionnaires was distributed to the owner/managers of small and medium enterprises in Kano, north- western part of Nigeria. This SMEs cut-across those in Agriculture, hunting, poultry, forestry and fishing; mining and quarrying; manufacturing; building and construction; wholesale and retail trade; hotels and restaurants; transport, storage and communication; real estate and renting; education; health and social works; other community, social and personal service activities respectively. The data collection period took about five months, which is between July to December, 2013. The follow up was mainly personal visitation of respondents and to some extent phone calls during the data collection periods. A total of 511 questionnaires was duly completed and returned representing 79.8% response rate. However, a total of 448 questionnaires was finally retained for analysis, as depicted in table 1. After the data collection, a total of 63 responses were excluded from the analysis due to issues of both univariate and multivariate outliers. Exonerating such number of questionnaires is essential due to the fact that they do not represent the sample (Hair et al., 1998; Meyers et al., 2006).

Table 1. Questionnaire Distribution and Retention

Item	Frequency	Percentage %
Distributed Questionnaires	640	100
Returned Questionnaires	511	79.8
Rejected Questionnaires	63	9.8
Retained Questionnaires	448	70

A total of 448 respondents constituted the sample for this research which shows a good response rate of 70 percent that covers the entire SME owner/managers in Kano, Nigeria. This rate is considered sufficient based on Sekaran's (2003) argument that a 30 percent response rate is suitable for the survey. Similarly, the current response rate is regarded adequate going with the suggestion that a sample size should be between 5 and 10 times the number of study variable for regression type of analysis to be carried (Hair et al., 2010; Bartlett et al., 2001; Pallant, 2001). Given the number of study variable 6; a sample of 60 is considered adequate for data analysis. Hence, 488 usable responses (70 percent) satisfied the required sample size requirement for multiple regression analysis conducts. The data was keyed into SPSS (version 20) for further analysis.

Table 2 below denotes the demographic profile of respondents. The respondents were asked to explain some of their demographic information, which includes gender, education, number of employees, years in operation, ownership of the organization, sources of capital investment, firm activities, total assets as well as the scope of operation. This study shows that males are the dominant gender in Kano SMEs with the response rate of 100 (100 percent). This is an indication that the sub-sector is dominated by male without any provision for female to participate in owning and managing the sub-sector. Regarding the educational attainment, those with secondary education constituted 153 responses, representing (34.2 percent) of the total responses, followed by HND/Degree holders with 96 responses (31.3 percent), next are those with Diploma certificates with 96 responses, representing (21.4 percent) of the total response. Master degree certificate holders total of 50 responses, which is exactly (11.2 percent), finally are those with PhD amounting to 9 responses representing only (2 percent) of the total response. This pointed out clearly that the majority of SME owner/managers are the holders of secondary school certificates followed by HND/Degree holders, whereas those with PhD are few with least percentage of (2 percent) which is insignificant. As for the number of employees, 262 respondents had between 10-49 employees, which is equivalent to (58.9 percent) whereas 162 respondents (36.1 percent) had between 50-199 employees, followed by those employing less than 10 constituted the least response rate of 24 equivalent to (5.4 percent) respectively.

Meanwhile, with regards to the number of years in operation 167 respondents had between 5-10 years in operation (37.3 percent), 105 respondents had between 11-15 years (23.4 percent), 71 respondents had between below 5 years of existence (15.8 percent), 66 respondents had between 16-20 years (14.7 percent), 20 respondents had between 21-25 years in operation (4.5 percent), 10 respondents had between 26-30 years in existence (2.2 percent) and 9 respondents had 30 years and above in existence (2 percent) respectively. However, in organizational ownership, there are 221 respondents (49.3 percent) that were owned and manage by individual owner/managers, 130 (29 percent) owned in form of partnership, 50 respondents (11.1 percent) were owned by others not listed on the questionnaire, while the remaining 47 respondents (10.5 percent) of the SMEs were owned in the form of joint ventures. The sources of capital invested considered in this study are personal savings, family, partnership, friends and bank loan. The result from table 5.2 shows that personal savings recorded 192 (42.9 percent) of the total respondents, which was the highest response. The family as the source of capital investment recorded 21 (4.7 percent) stand to be the least. Partnership source of capital investment carries 137 respondents which represent (30.6 percent). The capital source through friends recorded 37 (8.3 percent), and then followed by bank loan as a source of capital recorded 61 which was equivalent to (13.6 percent). The level of firm activities was equally considered; those firms in manufacturing recorded the highest respondents of about 298 which carries the larger percentage of (66.5 percent), then followed by those in wholesale and retail trade with respondents 59 (13.2 percent). Other community and social services 21 (4.7 percent). Those firms in transport, storage and communication 17(3.8 percent), agriculture, hunting, poultry, forestry and fishing 10 (2.2 percent), hotels and restaurants recorded 9 (2 percent), health and social works 9 (2 percent), education 8 (1.8 percent), real estate and renting a 7 (1.6 percent), building and construction 6 (1.3 percent), mining and quarrying 4 (.9 percent) respectively.

Similarly, with regard to the total assets of the firm, the majority have their asset base between N1-100m with a response rate of 194 (43.3 percent), followed by N101-200m which recorded 120 respondents (26.6 percent), between N201-300m recorded 74 (16.7 percent), between N301-400m recorded 32 (7.1 percent), between N401-500m recorded 23 (5.1 percent), and less N1m recorded 5 (1.1 percent), this clearly shows that SMEs in Kano have a strong asset base. Scope of SME operation is also covered and considered in the study. The result shows that those that engage in local operation recorded 62 (13.8 percent), state wide operation recorded 101 (22.5 percent), regional operations recorded 88 (19.6 percent), national operations recorded 102 (22.8 percent), and international operation recorded 95 (21.2 percent) respectively. This clearly pointed out that most SMEs in Kano engaged in national, state and international operations.

Table 2. Profile of respondents

Demographic variables	Categories	Frequency	Percentage%
Gender	Male	100	100
	Female	----	---
Education	SSCE	153	34.2
	Diploma/NCE	96	21.4
	HND/Degree	140	31.3
	Master Degree	50	11.2
	PhD	9	2
Number of Employees	Less than 10	24	5.4
	Between 10-49	262	58.5
	Between 50-199	162	36.1
Years in Operation	Below 5 years	71	15.8
	Between 5-10 years	167	37.3
	Between 11-15 years	105	23.4
	Between 16-20 years	66	14.7
	Between 21-25 years	20	4.5
	Between 26-30 years	10	2.2
	30 years and above	9	2
Ownership of the Organization	Individual	221	49.3
	Partnership	130	29
	Joint Venture	47	10.5
	Others	50	11.1

Sources of capital investment	Personal Savings	192	42.9
	Family	21	4.7
	Partnership	137	30.6
	Friends	37	8.3
	Loan from bank	61	13.6
Firm activities	Agriculture, Hunting, forestry, fishing and poultry	10	2.2
	Mining and Quarrying	4	.9
	Manufacturing	298	66.5
	Building and construction	6	1.3
	Wholesale and Retail trade	59	13.2
	Hotels and Restaurants	9	2
	Transport, storage and communication	17	3.8
	Real estate, renting and business activities	7	1.6
	Education	8	1.8
	Health and social works	9	2
	Other community, social and personal activities	21	4.7
Total assets	Less than N1m	5	1.1
	Between N1- N100 m	194	43.3
	Between N101- N200 m	120	26.6
	Between N201- N300 m	74	16.7
	Between N301- N400m	32	7.1
	Between N401- N500m	23	5.1
Scope of Operation	Local	62	13.8
	State wide	101	22.5
	Regional	88	19.6
	National	102	22.8
	International	95	21.2

4.1 Test of None Response Bias

Non-response bias is described as the common mistake a researcher anticipate to make in estimating the characteristics of sample because some category of respondents are underrepresented due to non-response (Berg, 2002). Singer (2006) asserted that there is no minimum response rate below which a survey estimate is necessarily biased and, on the other hand, no response rate above which it is never biased. However, no matter how small a non-response is, there is the possibility of bias which needs to be investigated (Pearl & Fairly, 1985; Sheikh, 1981). Respondents were divided into two independent samples based on their response to survey questionnaire with regards to six major study variables (market orientation, knowledge management, entrepreneurial orientation, business environment, organizational culture and firm performance).

One of the ways used to test for non-response bias is to compare the responses of respondents to the instrument (questionnaire) distributed early before September, 2013 and others, who responded to the questionnaire after September, 2013. However, the responses of those respondents late after September, 2013 are, in essence, a sample of non-respondents to the first questionnaire administered, and that is presumed to be the representative of the non-respondents group (Oppenheim, 1966).

Table 3. T- test comparison between early respondents (1) and late respondents (2)

	Timeline	N	Mean	SD	t-value	Sign
Firm Performance	Early	341	3.49	3.20	4.20	.32
	Late	170	3.20	4.08		
Market orientation	Early	341	3.45	4.76	1.20	.22
	Late	170	3.33	5.40		
Knowledge management	Early	341	2.85	4.98	-2.31	.71
	Late	170	2.86	5.22		
Entrepreneurial orientation	Early	341	2.43	3.91	-.12	.90
	Late	170	2.47	4.11		
Business environment	Early	341	3.01	8.33	.74	.71
	Late	170	2.95	10.05		
Organizational culture	Early	341	3.65	7.59	-.23	.72
	Late	170	3.75	6.82		

From the independent samples t-test for equality of means, the results above indicated that the group mean and standard deviation for early respondents and late respondents are actually not different. As indicated in table 5.2, the t-test result shows that there is no significant difference between early responses and late responses based on the items in firm performance (t= 4.2, p< 0.32); market orientation (t= 1.2, p< 0.22); knowledge management (t= -2.31, p< 0.71); entrepreneurial orientation (t= 1.21, p< 0.90); business environment (t= .74, p< 0.71); and organizational culture (t= .23, p< 0.72); respectively. Hence, as the result indicates, though the items are statistically different, the differences are relatively small and not significant to have an effect on the entire results.

4.2 *Getting Data Ready for Analysis*

4.2.1 *Coding*

Coding is carried out with a view of item identification; in this regard effort is made in the process of questionnaire development to give each and every item a number which will help in keying in the data. The coding is made on the respective and peculiar variable name. After that, the coding begins by recording in the code book which contains all the constructs in the questionnaire.

4.2.2 *Data Editing*

Data editing begins by checking the duly completed and returned questionnaires for incompleteness. All questions returned unanswered were removed and marked as "blank''. Additionally, questionnaires with a large percent of 25% unanswered were also discarded, while, a question with only two or three items answered were considered as a missing value case.

4.2.3 *Recording*

The wording of so many items such as item 3 for firm performance, item 4 for market orientation, item 4 and 10 for knowledge management, item 5 for entrepreneurial orientation, item 1, 5, 8 and 11 for the business environment as well as item 9 and 11 for organizational culture were negatively revised to help reduce response bias. The procedure outline by Pallant (2001) was followed.

4.3 Missing Data

Missing data is referring to unavailability of suitable value on one or more variables for data analysis (Hair, Black, Babin & Anderson, 2010). In view of the negative consequence of missing data in the analysis, the researcher takes precautionary action right from the field in an attempt at reducing or ensuring that the data is free from any missing valve. On receipt of any duly completed questionnaire, the researcher and his assistants quickly check through to ensure that each and every question is appropriately answered. In case of respondent's inability to answer a given question his attention is immediately drawn to kindly and appropriately complete the question. Additionally, the research follows the data entry step by step, with cushion and curiosity. As the data are receipt the researcher took not long time in inputting it into the SPSS version 20 software. As soon as a missing value is noted, the researcher refers back to the questionnaire and traces it. Therefore, this goes a long way in significantly ensuring that no missing valve is detected. A preliminary descriptive statistics were conducted to find out whether there is missing data or not. The descriptive statistics result shows that no missing value is recorded, hence, need no deletion. Hair et al. (2010) asserted that any case with more than 50% missing value should be deleted as long as there is adequate sample. Similarly, Tabachnich and Fiddel (2007) and Babbie (2005) observed the method of treating missing data is to merely drop the case. Hence, in this study no missing value is recorded.

4.4 Assesment of Outliers

Byrne (2010) described outliers as those cases whose scores are significantly dissimilar from all the others in a given set of data. Tabachinich and Fidell (2007) recommended the identification of univariate outlier through observation of z score. The z score for each and every item must be within the range of ±3. 29 (0.01 sig. level). According to this investigation any value exceeding ±3.29 were due to some mistake of data entry. A total of 54 cases of univariate outliers were recorded. In addition, Mahanalobis distance was examined to identify multivariate outliers. All cases with Mahalanobis distance exceeding 71 at a degree of freedom of 0.05 are removed. Therefore, case (30, 33, 55, 159, 285, 293, 346, 415, 432) were deleted because they are above the critical value of 113.56. Mahalanobis distance was re-conducted and found that no more outlier in the data set. The remaining 448 cases were considered for further multivariate analysis.

4.5 Normality Test

Tabachnick and Fidell, (2007) asserted that one of the basic assumption of regression analysis is that each variable and all linear groupings of the variable are normally distributed. Normality is usually evaluated by either statistical or graphical methods. The basic mechanisms of statistically normality are skewness and kurtosis. When a distribution is normal, the value of both skewness and kurtosis should be close to zero. In graphical method, normality is usually determined through histogram residual plots. This refers to a shape of data distribution to an individual continuous variable and its correspondence to normal distribution. If the assumption is met, the residuals should be normally and independently distributed (Tabachnick & Fidell, 2007). In this study, the normality assumption was diagnosed by checking at both skewness and kurtosis at the same time looking at histogram residual plots. Based on the analysis, the residual appears to be normal and the values of skewness and

kurtosis were close to zero. Therefore, the normality assumption was not violated (Afifi & Clark, 1998). Homosdesticity test is related to the basic assumption of normality, when the data is normal, then the relationship between the variables is assumed to be homoscedastic and, thus, hetroscedasticity is not present (Tabachnick & Fidell, 2007). Because of the fact that both multivariate and univariate normality are achieved in this study, it is concluded that the assumption of homoscedasticity is equally achieved.

4.6 Multicollinearity

Sekaran and Bougie (2010) described multicollinearity as a phenomenon in which two or more independent variables in a multiple regression model are extremely associated. The multiple regression procedure assumes that no independent or explanatory variable has a perfect linear relationship with one another (Tabachnich & Fidell, 2007). The simplest way of detecting multicollinearity is to check the correlation matrix of the independent variables. Most people consider correlation of 0.7 and above as high (Sekaran and Bougie, 2010), while to the others intercorrelation of greater than 0.8 is considered to be evidence of high multicollinearity (Berry & Feldman, 1985). According to Hair et al., (2010) the value of independent variables is highly correlated among themselves at 0.9.

Another device for finding multicollinearity is to look at the variance inflated factor (VIF) and tolerance value. Hair et al., (2010) asserted that any VIF exceeding 10 and tolerance value lower than .10 indicates a problem of multicollinearity. Table 4 below shows the VIF and the Tolerance value of independent variables.

Table 4. Tolerance and VIF Values

Independent variables	Tolerance	VIF
Market orientation	.885	1.155
Knowledge management	.876	1.141
Entrepreneurial orientation	.866	1.155

4.7 Factor Analysis

Factor analysis is a data reduction device which is used in summarizing the variable structure in a given set of data. Before the conduct of factor analysis certain condition needs to be met. The sample is required to have a minimum of 300 cases (Tabachnick & Fidel, 2007). Hair et al., (1998, 2010) and Coakes and Stead (2003) asserted that the general rule of thumb for a factor to be carried is that there should be a minimum of 5 respondents per variable under study. Camrey and Lee (1992) stated that a sample size of 50 as very poor, 100 as poor, 200 as fair, 300 as good, 500 as very good and 1000 as excellent. Therefore, with a good data of 448 and six variables the study has met with this condition. A sample size of more than 350 requires a factor loading of 0.30 to assess statistical significance (Hair et al., 2010, Tabanichnic & Fidell, 2014).

The principal component analysis (PCA) employed in this study that extracted factors were based on eigenvalue greater than or equals to 1. According to Pallant (2007) and Hair et al. (2010) factor analysis considers to be appropriate when most of the item's correlation coefficients were at least 0.3 and above. Bartlett's test of the sphericity need to be significant at ($p<0.05$). Kaiser – Meyer –Olkin (KMO) and the overall measure of sampling adequacy (MSA) should be at least 0.6 and above for good factor analysis, if the value is lower than 0.6, this indicates the need for collecting additional data or additional variable be introduced (Field, 2009). Hutcheson and Sofroniou (1999) came with the following classification of KMO as values between 0.5 and 0.7 are considered average, 0.7 and 0.8 are good, 0.8 and 0.9 as very good, and any value above 0.9 are excellent. In determining the number of components (factors) to extract, there is need for considering other vital output (KMO, total variance explained). The naming of the factor is solely an item with higher loading. Item loading and cross loading of 0.3 and above on one factor is considered in this study (Hair et al., 2010; Tabachnick & Fidell, 2014). The above mentioned decision rules were used as a basis for conducting principal component analysis in this study. The factor analysis for dependent, independents, moderating and mediating variables are as follows:

4.7.1 *Dependent variable – Firm performance*

Table 5 shows the result of factor analysis of the dependent variable (firm performance). At the start the dependent variable was measured with 6 items in one dimension, which was subjected to principal component analysis (PCA) using SPSS version 20. The factor loading of the items ranges from 0.704 to 0.855 with only 1 item removed due to low anti-image. The deleted item (Per 03) was the items that fail to match with other items in the component. Deleting this item with an anti - image problem add to the value of total variance explain. Inspection of correlation matrix reveals that all the coefficients have values of 0.3 and above.

Table 5. Result of the Factor Analysis for Firm Performance

	Items	Component 1
Per02	Product sales	.855
Per01	Wider market	.780
Per05	Increase in employees	.777
Per06	Increase in customers	.737
Per04	Customer complaint	.704
	Eigen value	2.982
	Percentage of variance	59.636
	KMO	.733
	Bartlett's Test of Sphericity	986.367
	Significance	.000

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.733 is above the benchmark of 0.60, this indicates that the sample size is adequate for the conduct of factor analysis. Similarly, the Bartllet's test of sphericity is statistically significant which support the factorability of the correlation matrix as the p-value stands at 0.000. The PCA shows the presence of only one component with eigenvalue exceeding 1. The extracted component is named firm performance. The percentage of the variance was, 59.636%.

4.7. *2 Independent variables*

The independent variables of this study are the market orientation, knowledge management, entrepreneurial orientations, all measured as uni-dimensional. The market orientation has 12 items, knowledge management 14 items, entrepreneurial orientation 9 items respectively. The total items measuring the entire three independent variables are 35 items.

4.7. *2.1 Market orientation*

Table 6. Result of the Factor Analysis for Market orientation

	Items	Component 1
MO07	Respond to competitive action	.736
MO08	Competitor orientation	.727
MO09	Product competitiveness	.726
MO10	Coordination	.696
MO01	Value added customer products	.652
MO02	Customer orientation	.623
MO03	Customer satisfaction	.520
MO11	Cooperation in formulating strategies	.491
	After sales service	.470
MO05	Customer added value creation	.433
MO12		
	Eigenvalue	3.816
	Percentage of variance	38.158
	KMO	.811
	Bartlett's Test of Sphericity	1462.880
	Significance	.000

4.7.2.2 Knowledge management

Table 7. Result of the Factor Analysis for Knowledge management

	Items	Component 1
KM02	Firm culture welcomes debate and stimulates discussion	.695
KM11	Knowledge sharing	.694
KM01	Value of knowledge as strategic assets	.692
KM07	Accountability for own actions	.613
KM06	Rewards for knowledge contribution	.592
KM08	Skills and experience as strategic assets	.588
KM12	Information sharing	.554
KM05	Respect for knowledge ownership	.550
KM14	Effective communication through info ration technology	.496
KM13	A great deal of face to face communication	.488
	Eigenvalue	3.607
	Percentage of variance	36.072
	KMO	.761
	Bartlett's Test of Sphericity	1398.639
	Significance	.000

4.7.2.3 Entrepreneurial orientation

Result of the Factor Analysis for Entrepreneurial orientation

	Items	Component 1
EO04	Competitive strategy adoption	.820
EO06	Adoption of strong and fearless measures	.783
EO07	Adoption of aggressive position to increase potential opportunity chances	.761
EO05	Emphasis on high risk projects	.665
EO03	Aggressive action over competitors	.545
EO01	Production of many products/services	.396
	Eigen value	2.760
	Percentage of variance	45.995
	KMO	.777
	Bartlett's Test of Sphericity	670.363
	Significance	.000

4.7.3 Moderating Variable – Business Environment

Table 8. Result of the Factor Analysis for Business environment (Moderator)

	Items	Component 1
BE05	Challenge in price competition	.923
BE11	Competitor actions are unpredictable	.923
BE08	Product and service obsolescence	.923
BE04	Declining market for products	.794
BE10	Changes in marketing practice	.794
BE12	Demand and customer taste are unpredictable	.763
BE06	Government interference	.763
BE09	Changes in mode of operation	.717
BE07	Threat of business environment	.398
BE02	Threats of external environment	.325
	Eigen value	5.758
	Percentage of variance	57.575
	KMO	.700
	Bartlett's Test of Sphericity	726.577
	Significance	.000

4.7.4 Mediating Variable – Organizational culture
Table 9. Result of the Factor Analysis for Organizational culture (Mediator)

	Items	Component 1
OC17	Employees understanding of what need to be done	.593
OC16	Clear mission that gives meaning and direction	.577
OC04	Systematic job organization	.524
OC06	Capabilities are treated as a source of competitive advantage	.514
OC05	Changes in marketing practice	.491
OC12	Customers influence the decision	.471
OC18	Our vision creates excitement and motivation for employees	.465
OC08	Acceptable rules and regulations	.453
OC03	Emphasis on team work	.450
OC07	Clear set of values	.435
OC01	Employee involvement in work	.429
OC10	Respond to competitor actions	.428
OC02	Information sharing	.417
OC15	Innovation and risk taking are encouraged	.413
OC14	Failure as an opportunity for learning and improvement	.389
OC13	Encourage direct contact with customers	.384
	Eigen value	3.510
	Percentage of variance	21.937
	KMO	.796
	Bartlett's Test of Sphericity	738.547
	Significance	.000

5. Conclusion
The finding from the study shows that there is no missing value in the data set, which was as a result of researcher's effort right from the field in ensuring that any questionnaire collected is keyed in within the shortest possible time. Additionally, univeriate and multivariate outliers were treated in accordance with Hair et al (2010) and Tabachnich and Fidell (2014) suggestions. The issue of normality, multicollinearity and homoscedasticity were all achieve, no violation is recorded at all. The finding also reported the absence of non – response bias between the early and late respondents. Similarly, the result of factor analysis shows that all the variable loaded have one component with a minimum of 0.3 as the factor loading as recommended by (Hair et al., 2010; Tabachnich & Fidell, 2014). Therefore, the result above is hereby confirmed that the data justify the fundamental requirement for multivariate analysis.

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