FACTORS INFLUECING BUSINESS PERFORMANCE OF MANUFACTURING SMALL AND MEDIUM ENTERPRISES (SMES) IN NIGERIA

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Abstract
Small and Medium-sized Enterprises (SMEs) play a vital role in the economic development of all nations. Therefore, it is vital to evaluate the performance of manufacturing SMEs to support that role. The aim of this study was to investigate the factors influencing business performance of manufacturing Small and Medium Enterprises in Nigeria. This was achieved by establishing whether access to technology by employees, determining if level of education of operatives and examining the role of human resource management have effect on the business performance of manufacturing Small and Medium Enterprises in Nigeria. In this study, manufacturing industry include agro based, designed and manufacturing related services sectors. The questionnaire was designed based on Likert scale of 1-5 with 1 as strongly disagreed and 5 as strongly agreed. A total of 219 questionnaires were sent out to fully registered manufacturing companies with corporate affairs commission (CAC) in Ota, Lagos, Kano, Kaduna, Aba and Nnewi towns were manufacturing is visible. 153 questionnaires representing 70% of the sample were returned and deemed useable. The data were analyzed using percentage and linear regression for descriptive and inferential analysis respectively. The study established that majority (92%) of the respondents agreed that access to technology; level of educational attainment of operative and human resource management were significant in explaining business performance of manufacturing Small and Medium Enterprises in Nigeria. The study concluded that access to technology, educational level of operatives and human resource management contribute to business performance of manufacturing small and medium enterprises in Nigeria. The study recommended that employees in the manufacturing industry should be trained in new and current technology that will enhance the productive capacity of employees and as a result improve on business performance of manufacturing small and medium enterprises in Nigeria.
Keywords: Economy, Growth, Performance, SMEs and Study

Introduction
Small and Medium- sized enterprises (SMEs) are crucial economic actors within the economies of nations (Wolf and Pelt, 2006). They are the major source of job creation and they represent the needs for future large companies and corporations (Monk, 2000). The significance of SMEs is

underlined by the fact that they account for about 90 percent of enterprises and 60 percent of employment at the global level (Tambunan, 2006). Because of the increasing population and rising unemployment in most parts of the world, SMEs are being considered as an alternative to convectional industrialization. Body of literature has attempted to assess their impacts on poverty reduction, employment creation and growth in national income (Leegwater and Shaws, 2008). In many studies and reviews it has been observed that SMEs are critical conduits through which national income is boosted and long-term growth is achieved. SMEs also help promote the mobilization of domestic savings for investment, harnessing of local raw materials, skills acquisition, advancement in technology and diversification. Studying SMEs can enhance our understanding of their needs in respect to growth and development. Such understanding would enable scientists, practitioners and policy-makers to formulate sound support strategies for SMEs (Norman, 2008).

The performance of small businesses is defined as their capability to lead to the creation of employment and wealth by business start-ups, survival and sustainability (Sandberg, Vinberg &Pen, 2002). Performance of SMEs is crucial as they will transform Nigeria into a high-income and knowledge-based economy through their contribution to the national Gross Domestic Product (GDP). Due to the significance of SMEs to local economies, it is necessary to study and evaluate their business performance. Such study helps to design governmental and non-governmental SME support programs. Thus, a need to study the factors influencing business performance of manufacturing SMEs in Nigeria. The main aim of the study was to investigate the factors influencing business performance of manufacturing small and medium enterprises in Nigeria.

Literature Review

In order for SMEs to fully participate in the process of globalization they must develop capabilities that will enable them to be internationally competitive in global markets. SMEs make a major contribution to economic and particularly employment generation in Nigeria. The variables that contribute to employment generation that result in the performance of businesses was studied under access to technology, level of education and human resource management.

Access to Technology

In knowledge- based economy, application of information and communications technology can be great leveler for SMEs. However when SMEs have limited access or understanding of these technologies, their prospects of acquiring and utilizing these for their benefit will reduce. Technology can provide global opportunities by enabling the flow of ideals across national boundaries improving the flow of information and liking increased number of patronage for SMEs. The desire to export their products and services for many SMEs may have a fundamental influence on promoting the rapid development of more advanced technological capabilities. To incorporate the technology into their operations, small business needs to find ways to deal with high set-up costs as well as lack of adequate infrastructure and IT skills.

Level of Education

Education remains widely recognized as an important facet of development; however, increased schooling levels have not been the panacea that many once expected (Easternly 2002). Although human capital is believed to be a key determinant of economic growth, an empirical study found no positive association between growth in education and growth in output per worker (Pritchelt, 2001).

This broader context underscores the importance of assessing carefully how education affects SMEs performance. Intuitively, one might expects higher levels of formal education to spur SMEs performance by enhancing organization capabilities. However, exploring the relationship between education and SMEs performance in developing countries reveal greater complexity.

Developing countries SMEs owners are relatively less educated than the majority of the population. Not only do they operate in countries with relatively low overall educational achievement but their owners also tend to be less educated than larger organizations. This lower level of educational attainment among SMEs owners is remarkable when contrasted with developed countries, where those with higher education are more likely to be self-employed (Woodruff, 1999). One reason for this contrast is that the poor in developing countries often create survival oriented SMEs due to lack of alternative employment opportunities.

Human Resource Management

Human resource management (HRM) involves practices that ensure that employees' collective knowledge, skills and abilities contributes to business outcomes. The traditional conceptualization of HRM focused on managing, measuring and controlling organizations workforce. Tactical or technical HRM includes selection, testing, training, performance measurement and administration of benefits.

The human resource benefit that is based on commitment is focusing on the psychological links between organizational and employee's goals. It is associated with higher involvement in managerial decision, participation, providing training and rewards. A human resource system that is based on control focuses on directly monitoring and rewarding employee behaviour or the specific outcomes of that bevaviour (Arthur, 1994). Human resources are considered as the most valuable asset in an organization, they make a difference only for a few organizations

Theory of Fits

Contingency Theory

Contingency theory has been widely used in researches on measuring the performance and effectiveness of an organization and it claims that there is no optimum method to systematize a firm and the organization structure of the company (Fiedler, 1964). In other words, contingency theory argues that the most appropriate structure for an organization is the one that best fits a given operating contingency, such as technology (Woodward, 1965, Perrow, 1970) or environment (Burns and Stalker, 1961), Lawrence and Lorsh, 1967).

As every company faces its own set of internal and external constraints as well as special environmental incidents that effect in distinctive levels of environmental uncertainties, there is no one optimal organization design for every company because every company had different organizational culture and different perspective towards risk.

Human Capacity Theory

This explains the entrepreneurial outcomes of an individual knowledge to the outcome value to a firm (Beaker, 1962). Education provides a source of human capital because it enables individuals to gain explicit knowledge necessary for task performance. Functional knowledge of day to day business operations that is obtained through executive development seminars, Workshops and conferences that are organized by Universities, Vendors, etc provide the basis for building occupational and industry specific human capital, which enhances the job performance (Tesluk and Jacobs, 1998).

Behavioural Based Theory

The Behavioural Based Theory in its perspective (Jackson, Schuler and Rivero, 1989) argues that Human Resource Management will acquire, develop and motivate the behaviours necessary to enhance firm performance (Jackson et al, 1989, Pfeffer&Salamcik, 1994, Schuler & Macmillan, 1984). The impact of this system is magnified when the component policies reinforce one another (internal fit) and in turn directly support the implementation of the firm's competitive strategy. In essence competitive advantage is in part a product of Human Resource Management systems that elicit employee behaviours consistency with the firm's broader strategic and environmental contingencies

Conceptual Framework

The study used conceptual framework that review evidences that identify each variable and their relationships. In particular, it investigated the significance of access to technology, level of education and human resource management as they influence the business performance of manufacturing SMEs in Nigeria. Therefore, these constructs and their relationships are as shown in Figure 1
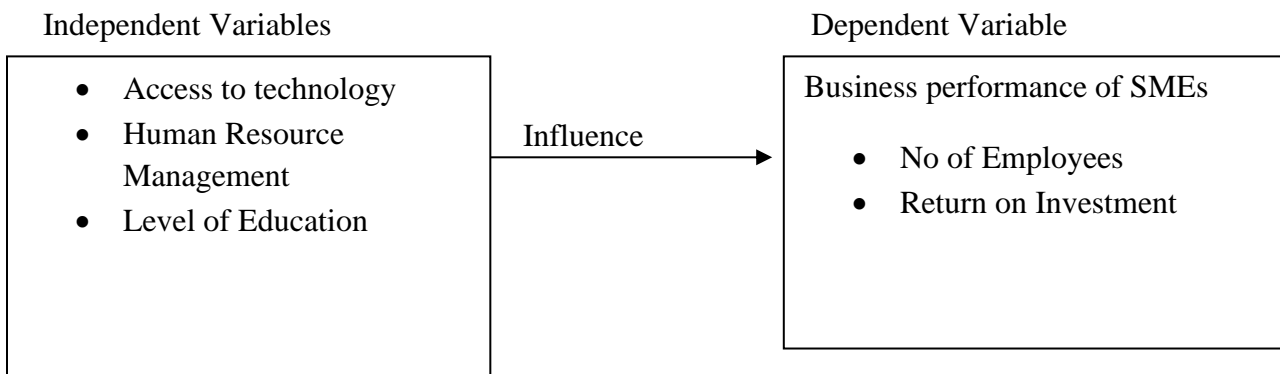
Independent Variables   Dependent Variable

Independent Variables		Dependent Variable
• Access to technology • Human Resource Management • Level of Education	Influence →	Business performance of SMEs • No of Employees • Return on Investment

Figure 1: The Conceptual Framework Showing the Relationship between Independent and Dependent Variables.

Methodology

In this research, manufacturing industry includes agro based and manufacturing related services. For the purpose of data collection, a survey questionnaire was conducted among registered manufacturing industries with the corporate affairs commission (CAC) in Nigeria. The questionnaire was designed based on likert scale of 1-5 with 1 as strongly disagreed and 5 as strongly agreed. To test the content validity, the questionnaire was initially distributed to expert panels of 3, comprising an expert in the manufacturing industry, statistician and academia knowledgeable in the area of business performance. This was followed by pilot survey to get an initial feedback on the content of the questionnaire.

During the pilot survey 22 respondents cutting across all the manufacturing industries were collected and the questionnaire was then amended according to their comments before the actual feedback began. In the main survey, a total number of 219 questionnaires were sent out to senior managers in manufacturing industries in Ota, Lagos, Kano, Kaduna, Aba and Nnewi towns were manufacturing are visble with high level of operations. After six months period, 153(70%) of the questionnaire was returned and deemed useable. The data were analyzed using descriptive and inferential statistics to establish the findings.

Results and Discussions

Results

Reliability and Validity Tests

In this study, to ensure reliability of the instrument Cronbach alpha was used. The findings indicated that access to technology had a coefficient 0.885, Level of education had a coefficient of 0.602 and human resource management had coefficient of 0.770. All constructs depicted that the value of Cronbach alpha are above the suggested value of 0.5 thus the study is reliable. These results are presented in table 1

Table 1: Reliability Test Results.

Variable description	Nature of Variable	Cronbach alpha	Number of items
Access to Technology	Independent variable	0.885	3
Level of Education	Independent variable	0.602	3
Human Resource Management	Independent variable	0.770	3

Multicollinearity Test

A multicollinearity test was conducted among the three variables studied using tolerance and Variable Inflation Factor (VIF) statistics of predictor variables. The finding of the multicollinearity test was presented in table 2. These findings show that the study independent variables, access to technology, level of education and human resource management have high tolerance.

VIF value for the study variables range between 1.072 1.152, an indication that the beta values of the regression equations of the three independent variables would be stable with low standard errors. The results presented in Table 2 shows that there was no multicollinearity among the variables in the studied data.

Table 2: Multicollinearity Test

Variable	Tolerance	VIF
Access to Technology	0.868	1.152
Level of Education	0.953	1.072
Human Resource Management	0.894	1.118

Objective 1: To establish whether access to technology affects business performance of manufacturing small and medium enterprises in Nigeria.

Descriptive Analysis

The study revealed that 100% of the respondents strongly agreed that there are polices measure on staff recruitment and replacement that specified technology attainment in their industries. This finding relate with contingency theory that agrees that the most appropriate structure for an organization is the one that best fit a given operating contingency, such as technology (Woodward, 1965, Perrow, 1970).

Technology provides a source of human capital because it enables individuals to gain explicit knowledge necessary for task performance. Thus, provide the basic building occupational and industry specific human capital which enhance business performance of the manufacturing SMEs in Nigeria.

Inferential Statistics

Business performance of manufacturing SMEs in Nigeria was regressed on access to technology. The relationship among the variables are depicted below

$$Y = B_0 + B_1X_1$$

Where

Y = Business Performance of Manufacturing SMEs in Nigeria

B_o = Coefficient of intercept (Constant)

X_1 = Access to technology

B_1 = Regression Coefficient

Table 3 shows that the correlation coefficient (R) between access to technology and business performance of manufacturing SMEs in Nigeria is 0.603 implying a strong linear relationship between access to technology and business performance of manufacturing SMEs in Nigeria. The coefficient of R^2 adjusted is 0.37 indicating that 37% of the variation in business performance of manufacturing SMEs in Nigeria was explained by access to technology.

Table 3: Model Summary

Model	R	R^2	R^2 adjusted	Std error to the estimate
1	0.603	.370	.372	.0928

a. Predictor (constant): Access to Technology

Table 4 shows ANOVA test performed on the business performance of manufacturing SMEs. It has a p-value equal to .000 which is lower than α (0.05), therefore concluded that the model is significant and therefore fit for use.

Table 4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig
1. Regression	.777	1	.777	90.268	.000
2. Residual	1.291	152	.009		
3. Total	2.068	153			

    a. Dependent variable: Business Performance of Manufacturing SMEs in Nigeria
    b. Predictor (constant) Access to Technology

Table 5 shows regression coefficient. B_1 is standardized. The table shows that linear relationship between access to technology and business performance of manufacturing SMEs in Nigeria is $Y= 0.419 + 0.500X_1$ where Y is business performance of manufacturing SMEs in Nigeria and X_1 access to technology. The p-value of the slope of the model 0.000 is less than α (0.05) therefore H_0 is rejected and it is concluded that access to technology has a significant role in business performance of manufacturing SMEs in Nigeria.

Table 5: Regression Coefficient

Model	unstandardized	Coefficient	Standardized coefficient	F	Sig
	B	Std error	B		
1.(constant)	.419	.049		8.567	.001
Access to Technology	.500	.053	.613	9.501	.000

    a.   Dependent variable: Business Performance of Manufacturing SMEs in Nigeria.

Objective 2: To determine if level of education of operatives influence business performance of manufacturing small and medium enterprises in Nigeria.

Descriptive Analysis

All the respondents representing 100% strongly agreed that operatives must have educational attainment of at least secondary school levels to enable them operate successfully in the manufacturing industries. This provides a source of human capital income; it enables individual operatives to gain explicit knowledge necessary for task performance.

Inferential Analysis

Business performance of manufacturing SMEs in Nigeria was regressed on educational attainment of the operatives. The relationship among the variables are depicted below

$Y=B_0+B_2 X_2$
Where
Y= Business performance of manufacturing SMEs in Nigeria
B_0= Coefficient of Intercept (constant)
X_2=Educational Level of Operatives
B_2=Regression Coefficient

Table 6 shows the correlation coefficient (R) between educational level of operatives and business performance of manufacturing SMEs in Nigeria is 0.154 implying a weak linear relationship between educational level of operatives and business performance of manufacturing SMEs in Nigeria. The Coefficient of R^2 adjusted is .017 indicating 1.7% of the variation in business performance of manufacturing SMEs in Nigeria was explained by educational level of operatives.

Table 6: Model Summary

Model	R	R^2	R^2 adjusted	Std error to the estimate
1	.154	.024	.017	.1101

   a. Predictor (constant) Educational Level of Operatives

Table 7 shows an ANOVA test performed on the business performance of manufacturing SMEs in Nigeria. It has a p-value equal to .001 which is less than α (0.05), therefore concluded that the model is significant and therefore fit for use

Table 7: ANOVA

Model	Sum of squares	df	Mean Square	F	Sig
Regression	.049	1	.049	3.633	.000
Residual	2.019	152	.013		
Total	2.068	153			

a. Dependent Variable: Business Performance of Manufacturing SMEs in Nigeria
b. Predictor (constant) Educational Level of Operatives

Table 8 shows regression coefficient. B_2 is standardized. The table shows that linear relationship between educational level of operatives and business performance of manufacturing SMEs in Nigeria is $Y = 0.548 + 0.334X_2$ where Y is business performance of manufacturing SMEs in Nigeria and X_2 is the educational level of operatives. The P-value of the slope of the model .001 is less than α (0.05) therefore H_0 is rejected and it is concluded that educational level of operatives has a significant role in business performance of manufacturing SMEs in Nigeria

Table 8: Regression Coefficient

Model	Unstandardized Coefficient		Standardized Coeff.	F	sig
	B	Std error	B		
Constant	.548	.173		3.170	.002
Educational Level	.334	.173	.154	.1913	.001

   a. Dependent variable: Business Performance of Manufacturing SMEs in Nigeria.

Objective 3: To examine the role of human resource management in business performance of manufacturing small and medium enterprises in Nigeria.

Descriptive Analysis

The study revealed that 75% of the respondents agreed that they have policy on human resource management in their firms. The finding relates to behavioral based theory. This theory argues that human resource management will acquire, develop and motivate the behavior necessary to enhance firm performance. This system elicits employees behaviour consistency with the firms broader strategy and environmental contingencies.

Inferential Analysis

Business performance of manufacturing SMEs in Nigeria was regressed on human resource management. The relationship among the variables are depicted below

$Y = Bo + B_3 X_3$,

where

Y= Business performance of manufacturing SMEs in Nigeria

Bo= Constant (coefficient of intercept)

X_3= human resource management

B_3= Regression coefficient

Table 9 shows that the correlation coefficient (R) between human resource management and business performance of manufacturing SMEs in Nigeria is 0.568, implying a strong linear positive relationship between human resource management and business performance of manufacturing SMEs in Nigeria. The coefficient of R^2 adjusted is 0.318 indicating that 31.8% of the variation in business performance of manufacturing SMEs in Nigeria was explained by human resource management

Table 9 Model Summary

Model	R	R^2	R^2 Adjusted	Std error for estimate
1	.568	.322	.318	.9664

a.   Predictor (constant) Business performance of manufacturing SMEs in Nigeria

Table 10 shows an ANOVA test performed on business performance of manufacturing SMEs in Nigeria. It has a P-value equal to 0.000 which is less than α (0.05) therefore concluded that the model is significant and therefore fir for use.

Table 10 ANOVA

Model	Sum of square	Df	Mean square	F	Sig
Regression	.667	1	.667	71.392	0.000
Residual	1.401	152	.009		
Total	2.068	153			

a. Dependent variable: Business performance of manufacturing SMEs in Nigeria
b. Predictor (constant) Human Resource Management

Table 11 shows regression coefficient B_3 is standardized. The table shows that linear relationship between human resource management and business performance of manufacturing SMEs in Nigeria is $Y = 0.693 + 0.234X_3$, where Y is the business performance of manufacturing SMEs in Nigeria and X_3 is human resource management. The P-value of the slope of the model is 0.000

which is less than α (0.05) therefore H$_0$ is rejected and it is concluded that human resource management has a significant role in business performance of manufacturing SMEs in Nigeria.

Table 11 Regression Coefficient

Model	Unstandardized B	Coefficient std error	standardized coefficient beta	t	Sig
Constant	.693	1023		29.712	.000
Innovativeness of SMEs.	.234	.028	.368	8.449	.000

Dependent variable: Business performance of manufacturing SMEs in Nigeria

Discussions

The study established that majority (92%) of the respondents agreed that access to technology, educational attainment of operatives and human resource management are some of the factors that influence business performance of the manufacturing SMEs in Nigeria. All the factors studied were statistically significant in explaining business performance of the manufacturing SMEs in Nigeria. A majority of 92% of the respondents pointed out that there were policies aimed at ensuring access to technology, educational level of operatives and human resource management are put in proper perspective in their firms.

For access to technology correlation coefficient (R) is 0.603 implying a strong linear relationship between access to technology and business performance of manufacturing SMEs in Nigeria. 37% of the variation in business performance manufacturing SMEs in Nigeria was explained by access to technology. The linear relationship between the two variables is Y= 0.419 + 0.500X$_1$. for educational level of operatives the correlation coefficient (R) IS 0.154 implying a weak linear relationship between educational level of operatives and business performance of manufacturing SMEs in Nigeria. 1.7% of the variation in business performance of manufacturing SMEs in Nigeria was explained by educational level of operatives. The linear relationship between the two variables is Y= 0.548 + 0.334X$_2$. For the role of human resource management the correlation coefficient (R) IS 0.568 implying a strong linear relationship between human resource management and business performance of manufacturing SMEs in Nigeria. 31.8% of the variation in business performance of manufacturing SMEs in Nigeria was explained by human resource management. The linear relationship between the two variables is Y= 0.673 + 0.234X$_3$

Access to technology and human resource management are strong factors influencing business performance of manufacturing SMEs in Nigeria as seen from the findings. Educational levels of the operatives though contribute but minimally. From the foregoing, it shows that there are more factors to be considered in business performance of manufacturing SMEs in Nigeria as the total variation used in the explanation is less than 100%

Conclusion and Recommendations

Enhancing the role and participation of manufacturing SMEs in Nigeria in the global market place can be achieved through access to technology which is of critical importance today. With technology acquired in information technology, business performance of the industries can be improved upon. Education which provides a source of human capital as it enables the operatives to gain knowledge necessary for task performance which enhances the job performance. This has been at a low ebb as revealed in this study employees were encouraged to develop themselves by attending seminars, training and furthering their education.

For access to technology Ho is rejected because p-value (.000) is less than α (0.05) thus access to technology has a significant role in business performance of manufacturing SMEs in Nigeria. For educational level of operatives Ho is rejected because p-value (.001) is less than α (0.05) thus educational level of operatives has a significant role in business performance of manufacturing SMEs in Nigeria. For role of human resource management Ho is rejected because p-value .000 is less than α (0.05) thus human resource management has a significant role in business performance of manufacturing SMEs in Nigeria.

1. Employees in the manufacturing industry should be trained in new and current technology that will enhance the productive capacity of employees and as a result improve business performance of manufacturing SMEs in Nigeria.
2. Employees are encouraged to further their education, attend conferences and seminars where new ideas are shared among colleagues so as to brace up with time and currency of discoveries in the global entity.
3. Finally, governments at all levels should provide an enabling environment for business to thrive by providing infrastructural amenities and probably a form of waiver for the manufacturing SMEs in Nigeria in area of tax and tariff relief.

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