Policy Support and Performance of Small and Medium Scale Enterprises in South-West Nigeria

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Abstract

This study sets out to investigate the impact of technological, infrastructure and financial supports on the performance of small and medium scale enterprises (SMEs) in Nigeria. Because of the largeness of the number of SMEs in different sectors of Nigeria, the coverage of the research work is narrowed down to bakery enterprises in South West Nigeria. Primary data were employed to elicit information from 144 bakery firms from South West Nigeria. The primary data were sourced using interview schedule and questionnaire administration. A model of three (3) linear equations was formulated capturing the variables of performance, technology, infrastructure and finance. In all, a total of twelve (12) variables were used in the analysis; they are: output (OUT), asset (AST), Employees (EMP), acquisition mode of machines (ACQ), energy expenditure (ENR), initial capital (CAP), training (TRA), water expenditure (WAT), bank credit (BNK), education (EDU), age of enterprise (AGE), and non-bank credit (NBK). The Ordinary Least Square (OLS) regression analysis was used to estimate the model. The findings of the study revealed that technological and financial supports impact positively on the performance of SMEs while infrastructural support is negatively related to the performance of SMEs in Nigeria. The study therefore concluded with empirical evidence that policy supports having bearing on technology, infrastructure and finance affect the performance of SMEs to a great extent in Nigeria.

Keywords: Policy support, SMEs, Ordinary Least Square regression analysis.

1. Introduction

The worldview of Small and Medium Scale Enterprises (SMEs) as an index of technological backwardness or as a sign of industrial backwardness is changing tremendously with time. Indeed, in many developed and developing nations of the world, SMEs are now appreciated as a necessary complement to the industrial structure of any modern economy. The dimensions of the recent attention on them border on the perceived wisdom that they could leapfrog their initial early stage and embrace modern large businesses in the development process. Many developing countries have recorded success and positive results from the discovery of SMEs in the past two or three decades. In many countries, the dynamic role of SMEs as engines through which the growth objectives of development can be achieved has long been recognized. As observed in the works of Egelen and Steil 1997; Daniel and Ngwira 1992; Gilbb and Richie 2002; Fisseha and McPherson 1991; Gallagher and Robison 1995; Kayanula and Quatrey 2000; it is estimated that SMEs employ 22 percent of the adult population in developing countries. In view of the importance and place of SMEs in an economy, it is imperative that SMEs should be given the priority it deserves.

However, the contribution of SMEs to the Nigerian economy is still very small and negligible when compared with other countries such as the Asian tigers (Owualah 1987). The SMEs in Nigeria still face a lot of problems ranging from financing to survival. The rate of mortality is alarming. The government has made a lot of efforts to ensure that the SMEs are given a helping hand to frog-leap; growing to complement the modern day industrial structure like other developing nations of the world. Over the years, there have been serious divergent opinions as to what should be an appropriate policy to develop for Nigerian SMEs. In the recent times, the government merged the Nigerian Industrial Development Bank (NIDB), Nigerian Bank for Commerce and Industry (NBCI) and Nigerian Economic Reconstruction Fund (NERFUND) to form the Bank of Industry (BOI); all in the effort to assist SMEs in Nigeria. The government also established the Small and Medium Enterprises Development also went ahead to establish the National Guarantee Scheme for the collateral for SMEs so as to reduce the risk of financing. The Small and Medium Enterprises Equity Investment Scheme (SMEIS) was set up in 2001 by the Bankers Committee which was a response to government overture that banks should device ways of funding SMEs in Nigeria. Now government has converted all the Community Banks in the country to becoming Micro

finance Banks, strengthening the capital base, so as to be able to lend helping hand to the development of SMEs. In spite of these developmental policies, the result from this sector of the economy has not been encouraging. Some scholars are of the view the effort of Nigerian Government is unidirectional. Apart from financial support, little is being done by the government about other environmental supports such as infrastructure and technology. No doubt that in Nigeria and indeed as in many other developing countries, poverty level is still very high. Some scholars have maintained that high rate of poverty can be linked to the investment environments which have not been friendly to the survival and development of SMEs. This is evident from the rate of mortality of these small scale ventures. Given the above scenario, the aim of this study therefore is to critically examine the impact of the local technology on the performance of SMEs.

2. Conceptual Framework and Literature Review

In the literature, little was said of about the link between infrastructure, technology and the performance of SMEs. In this case, the conceptual framework is explored to establish to link.

Economic/Financial Environment and Support.

Every business enterprise whether profit oriented or non-profit oriented is affected by the economic environment and it support in various ways. For instance, the issue of capital; virtually every organization needs capital, machinery, building, office equipment, tools and cash. While some organizations may produce the needed capital themselves, others may need to generate cash to purchase the capital items. This implies that all businesses are dependent on the availability and prices of these items. While some societies are endowed with natural resources, others may not be as lucky. The issue of funding and its availability is of paramount importance to the performance and survival of SMEs. Moreover business managers must be interested in economic variables such as: unemployment rate, exchange rate of the local currency in relation to the pound sterling or the American dollar, inflation and interest rates in the economy.

The Technological Environment and its support

Science provides knowledge while technology utilizes it. The main influence of technology on business is in the way things are done. The impact and support of technology is seen in new products, new machines, new tools, new materials and new services in the market. For instance, with computer application banks are able to serve their customers efficiently and promptly. Although technology has brought with it many benefits, it also has some problems such as air, and water pollution, traffic jam, energy shortage etc; it contribution to success and survival of business enterprises cannot be overemphasized.

Nigerian Business Environment and Its Support

Business is a social activity aimed at creating goods and services within the framework of a society or community. An activity that is legitimate in one society, city or state may be illegitimate in another. This implies that the type of business activity that takes place in a particular community, state or nation is largely determined by the beliefs, needs and attitudes of that community. A business makes a demand on the society and vise versa, the interrelationship between the business and the community in which it operates, amounts to the business environment. However, the business environment and its support vary from one country or state to another. Some may be favourable to business growth while others may be hostile.

The business environment is an intricate and dynamic concept which embraces the independent actions of all institutions, organizations; and individuals that directly or indirectly impact on the operations of business organizations (Olson 1983). He also opined that participants within the Nigeria business environment include:

- Individuals who act as customers of goods and services; labour/employees in organization, providers of capital and entrepreneurial skills to organization producing the goods and services.
- Business organizations, which are primary suppliers of input and services used for production, distribution and retailing of the goods and services. They also act as competitors to business.
- The state, which acts as a consumer of goods and services, an employer, a producer of goods and services, a regulator of the economy, etc.

Aluko (1983) is of the opinion that business environment can be conveniently classified into two – the internal and external business environment. To him, the internal environment consists of technologies used by the organization and its sub-elements. i.e. its market and the marketing system, its products services and the production system, the administrative and control procedures, to mention but a few.

The external business environment comprises sub- elements like the customers, competitors, the political and legal systems, the economic and social system, the technological and ethical system, and the government regulatory system, etc. Aluko (1983) stressed on the interdependence and interrelatedness of the business to its environment.

As noted earlier, by Olson (1987), the Nigerian business environment is dynamic, that is, it is constantly changing. Whether the change is friendly or hostile, positive or negative, it definitely results either in opportunities or threat to the business organizations, no business organization can make decisions that are not affected by a wide range of internal and external business environmental factors. He shared the view of Aluko that there is inter-dependence between a business and its environment. To Ajayi and Adebisi (2006), an appreciation of this interdependence is an important tool to understanding how business functions and how policies are made. From the above ascertion, Isimoya (2005) noted that the two basic institutions are the company and the market environment. These two elements are connected by four flows such that the company dispatches goods/ services and communication (information) to the market while in return receives money (Sales) and feedback.

Obikoya (1995) asserted that the operating environment contains other elements that affect the company and its market. These elements affect the way the organization services its market and ultimately its success. To him, the first is the competitive environment, which is made up of operators in the firm's industry and the intermediaries. For instance, the extent of efficiency of the firm's suppliers and distributors, and the rate of competitiveness in the industry for labour, capital and materials, will affect the firm's level of success in operations.

The second level of environmental element is found in the micro- environment. These are independent institutions which facilitates the firm's operation. Some of these elements are tagged mutual policies. These are institutions that the firm is interested in and which are in turn interested in the firm such as financial institutions, insurance firms and market intermediaries.

Others include both the sought and unwelcome public: the sought public is made up of institutions like the press and other mass media organizations, while the unwelcome public includes consumerist movement and trade unions. These institutions are organizations that the firm cannot afford to ignore in making its decisions. They all have a stake in the business.

The third and most general level of environmental forces which is my focus in this study is the macroenvironment. These macro- environmental forces affect the structure, conduct and performances of a firm. Since the firm cannot operate in isolation, it dependents on them. The implication for the company is that it should invest to keep a-breast of the significant social changes, so as to adapt fast. The changes are constant. For instance, a technology appliance that is in vogue today may become obsolete as a result of customer lifestyle changes, government legislation and social trend. That a company succeeds depend on the rate at which it is fine-tuned to its environment. A company is said to be innovative and adaptive if it grasps the opportunities that the changes bring about and meet the threat thereof. An innovative firm is a prosperous firm. Amuda (2006) also illustrated this in explaining the inter-dependence between the company and its environment, and went further to explain the open system concept.

Literature is full of different system concept however, Kaynak and Olofddon-Brendenlow (1987) proffered that an open system is a set of interrelated component that function together, within constraints, towards a common goal.

To this end, the open system suggests components that interact dynamically to create a synergistic whole which is greater than the sum of its parts. For an industrial organization in Nigeria, the organization interacts with the environment and the units within the technological, infrastructural and financial sub-units.

3. Data and Methodology

The major instrument of data collection that is considered adequate for the work is the use of questionnaire. This is because most SMEs used in my sample don't publish financial statements where secondary data can be sourced. The questionnaire was well constructed to ensure that it adequately measures what it intends to measure. To achieve this, authorities in this area were widely consulted. Personal interviews were conducted along with the administration of questionnaire so that the respondents are well guided so as to avoid misunderstanding of questions contained therein. However, the work as a whole used data and published information from government agencies such as the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), National Directorate of Employment (NDE), various journals and public works on SMEs.

Model Specification and Estimation Technique

From the objectives of this research work, a multiple regression analysis is used to ascertain if a definite relationship exists between the performance of SMEs (output, total assets and employment generation) and the independent variables which are: finance (capital invested, bank credit and non-bank credit); Infrastructure (energy and water); Technology (mode of acquisition of machine, training and educational background of the owners). Thus we specified a SMEs performance function for Nigeria which permits a test of the hypotheses that 'improved technological, infrastructural and financial policy support will boost SMEs performance that will accelerate growth in the economy'. This yields the following functions (Awe, 2002)

 $Out = f(Acq, Enr, cap) \quad -----(1)$ to be estimated as; $Out = \alpha_0 + \alpha_1 Acq + \alpha_2 Enr + \alpha_3 Cap + e$ Where Out = total output Acq = acquisition modeEnr = expenditure on energyCap = initial capitalAst = f(Tra, Wat, Bnk) -----(2) to be estimated as; Ast = $\alpha_0 + \alpha_1 \operatorname{Tra} + \alpha_2 \operatorname{Wat} + \alpha_3 \operatorname{Bnk} + e$ Where Ast = total assetTra = formal training Wat = water consumption in litres Bnk = bank credit and $Emp = f(Edu, Age, Nbk) \quad ------(3)$ to be estimated as: $Emp = \alpha_0 + \alpha_1 Edu + \alpha_2 Age + \alpha_3 Nbk + e$ Where Emp = employment generation Edu = educational background of the owner Age = age of the enterprise Nbk = non-bank credit

Hence, on apriori, the expectation of the model estimation is that the three (3) independent variables in each of the three (3) equations will impact on SMEs' performance as follows:

All the hypotheses formulated for this research work were tested at 95% level of confidence.

4. Results and Findings

In the regression result 1, effort was made to examine whether a definite relationship exists between the performance of bakery firms proxied by output and predictors, which are acquisition mode of the machines, energy and initial capital which stands for technological infrastructural and financial support respectively. With adjusted R² of 0.965, it shows that about 96.5% of the behaviour of the dependent variables is explained by the predictors. i.e. the explanatory variables. There is a positive relationship between mode of acquisition of machine and output. In the same way, a positive relationship exists between output and initial capital invested. However, a negative relationship exists between performance and expenditure on energy. Since most of the firms use alternative source of energy, the energy expenditures become very heavy on the enterprises and hence affect output. Finally, the f- statistics of 132.1 implies that the overall model is statistically significant at 5% level of significance. It is interesting to discover here that despite the fact that most of the firms use locally fabricated machines, the local technology still impact positively on output. The variable for performance of bakeries is highly positively sensitive to financial support. Therefore, we reject the entire null hypotheses for model 1 and accept the alternative hypotheses. This means that acquisition mode of machines, energy expenditure and capital investment have significant effect on performance of the enterprises in Nigeria.

From regression result 2, the dependent variable is total asset while the predictors are training, water expenditure and bank credit, which are proxies for technological infrastructural and financial supports respectively. The adjusted R² of 0.795 shows that the predictors explain about 79.5% of the behaviour of the dependent variable. A positive relationship exists between water expenditure and a total asset. The same positive relationship is exists between total asset and bank credit. However, a negative relationship exists between total asset and training. It is interesting to note that the relationship that exists between total asset and water expenditure is positive. This is contrary to our a priori expectation. However, the reason for this could be because the expenditure on water is not significantly different from the figures of the quantity of water used by the enterprises, since we valued 2500 liters at N2500. Water expenditure and bank credit are statistically significant at 5% level of significance. While training- a variable for technological support is not statistically significant at 5% level of significance. F-statistics of 185.51 is statistically significant at 5% level of significance. Form these results and findings, we reject the null hypotheses that water expenditure and bank credit do not significantly affect total asset of SMEs and accept the alternative hypotheses. Concerning the third variable which is training, we accept the null hypothesis that training does not significantly affect the total asset of bakeries in Nigeria while we reject the alternative hypothesis.

The result of regression 3 shows an adjusted R^2 of 0.6097. This implies that the predictors account for 60.97% of the behaviour of the dependent variable. Here, number of employees is a performance variable which depends on the educational background of the owners, age of the enterprises and the credit facilities from the non- bank financial institution such as the cooperative societies. The predictors impact positively on the dependent variable. Again, all the three independent variables are statistically significant at 5% level of significance. This implies that all the null hypotheses for the three predictors are rejected. That is, educational background of the owners, age of the enterprise and credit facilities from non- bank institutions have significant impact on employment generation of the SMEs. The F-statistics of 75.47 reveals that the overall model is also significant at 5% level of significance.

5. Summary of Findings and Recommendations

The focal point of this study is to examine the impact of policy support on the performance of SMEs in Nigeria, with a special indifference on the south western part of the country. The study employs basically primary data obtained through the use of questionnaires and personal interviews.

In order to capture the performance of SMEs, a system of three equations were formulated to be the model for the research work. Two other equations were later stated as a derivative of the original model. The proxies for measuring the performance of SMEs as used in the model include output (OUT), total assets (AST) and the employment generation (EMP); while each of the independent variables represents policy support which are

either financial, technological or infrastructural. Acquisition mode of machine, government training programs and educational background of the entrepreneurs are proxies for technological support. Cost of energy and water supply are used as proxies for infrastructural support, while initial capital investment, bank credit facilities and non- bank credit facilities are proxies measuring financial supports.

The result obtained in equation 1 reveals that output will constantly decline by 172.445 loaves of bread if the three independent variables are held constant. The effect of the constant reduction reflects the importance of these variables in the enhancement of the performance of the SMEs as measured by the output.

The result also reveals that the mode of acquisition of machine (ACQ) and initial capital (CAP) are directly related to output while expenditure on energy is inversely related to the output. This is as a result of the fact that increases in capital and machine acquisition mode will enhance output performance, while increase in expenditure on energy, as a result of the use of alternative source of energy will heavily affect output of SMEs. With a very high adjusted R^2 of 96.52%, as corroborated by the F-statistics of 134.3 shows that the model has a goodness or fit, and that the independent variables well explained the variations in the output.

In equation 2, the coefficient of constant parameter is negatively related to the total assets (AST) proxied as the performance variables indicating that the (AST) will decline, if the independent variable (TRA, WAT and BNK) are held constant. This shows the importance of the independent variables in enhancing the performance of SMEs proxied as total assets.

Also training as a measure of technological support is inversely related and insignificant to the dependent variable, total assets; hence the performance of bakery firms. In contrast to the above, the coefficient of water supply as a measure of infrastructural performance is directly related and also significant to total assets (AST). This reveals the importance of water supply as an input enhancing the performance of the enterprises. Also, a positive relationship exists between bank credit facilities (BNK) and total assets (AST), indicating that a percentage increase in banks credit to the SMEs will result to 18.9% increase in SMEs total asset. Though the BNK is significant in explaining the variation of SMEs total Asset (AST), but there is a very low correlation between the bank's credit facilities and total asset. The reason is not far fetched. It is as a result of the very low credit extended by the bank to SMEs due to overridden interest rate and stringent requirements and conditions in obtaining the loans. The coefficient of adjusted R^2 of the 0.799 reveals a strong explanatory power of the model as also revealed by the F-statistics.

From the result obtained from equation 3, the positive coefficient of the constant parameter shows that employment generation will increase constantly if the independent variables - educational background (EDU), business span (Age) and non bank credit facilities (NBK) are held constant. This shows that there are other factors that affect employment generation of SMEs other than the over-listed variables. The results also reveal a direct relationship between educational background and employment generation. This result also shows that EDU is significant indicating that the higher the level of education, the wider the scope of employment generation. Also, the coefficient of enterprise lifespan (AGE) is positively related and significant to EMP, which shows that the longer the span of the business the more the employment generation of SMEs.

In addition to the above, credit facilities provided by non-bank financial institution, such as a cooperative societies are directly related and significant to the employment generation. The bulk of the funds to the SMEs is provided as initial capital through personal savings and credit from non-bank financial institutions. Hence, it is expected that an increase in credit to SMEs in Nigeria will increase employment generation, which is revealed by the result. The result also reveals that a percent increase (decrease) in non-bank credit facility will result to 86.06% increase in employment generation. The adjusted R^2 of 0.6097 shows that the explanatory power of the model indicating that 60.97% variation in the dependent variable is explained by the independent variables while the other 39.03% is explained by other variables outside the model as supported by the F- statistics.

Recommendations

Considering the empirical findings of this research work, vis a vis the objectives of exercise, the following policy recommendations are hereby suggested:

Even though, expenditure on energy as a variable is statistically significant, there is an inverse relationship with output of SMEs. It is therefore suggested that the government should do everything at its disposal to revamp the

energy sector so that Nigeria SMEs can contribute maximally to the economic growth and development of the nation as in other nations of the world.

From the findings, majority of the owners of bakery firms do not have any formal training as far as the production process is concerned. This may also be the situation for SMEs in other sectors. It is therefore recommended that training workshops should be organized for the owners of SMEs as well as their employees by government agencies such as the National Directorate of Employment (NDE), National Agency for Food and Drug Administration Control (NAFDAC), Small and Medium Enterprise Development Agency of Nigeria (SMEDAN) etc.

From the findings of this research, less than 20% of the entrepreneurs have access to bank credit facilities. This may be as a result of lack of information on the part of the entrepreneurs. The cost of bank facilities is cheaper than facilities from cooperative societies. Owners of SMEs should be encouraged to approach the banks for credit facilities. Commercial and microfinance banks should also be encouraged by the government so as to be willing to lend to Nigeria SMEs at concessionary interest rates devoid of heavy collaterals and stringent conditions.

Bakery business heavily depends on water as part of its inputs. Most of the enterprises in Nigeria depend on private source of water supply. Some of them use private bore-hole water which is not reliable especially during dry season. As part of the infrastructural support policy, government should revolutionalise the state and federal ministries of water resources to ensure adequate and efficient supply of water. This is more hygienic than most of the private water supply.

From the findings, it is interesting to note through the acquisition mode of the machine used that locally fabricated machines contribute greatly to the output of SMEs. It is therefore recommended that the manufacturers of the locally fabricated machines / tools should be encouraged by the government. The manufacturers can be exposed to inductions outside the country so that Nigerian indigenous technology and design can compete favourably with what obtains any where in the world.

Educational background of the entrepreneurs was found to be statistically significant in this research work. Therefore many of our graduates and school leavers should be encouraged by the government to be enterprising. By this, they become employers of labour and contribute meaningfully to the economic growth of the nation.

6. Suggestion for Future Research

In this work, performance of SMEs in Nigeria was investigated in the light of contributions from technological, financial and infrastructural environments. The work does not cover other business environments such as the legal, social religious, political, cultural-ethical and international environments. Future research should cover these others areas. The work can also be studied to cover a group of developing countries.

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Appendix

Regression Result 1

Dependent Variable: OUT

Method: Least Squares

Sample: 1 144

Included observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-172.4452	55.26936	-3.120087	0.0022
ACQ	320.6628	51.23053	6.259214	0.0000
ENR	-0.789172	0.162030	-4.870546	0.0000
САР	348.9215	6.979535	49.99208	0.0000
R-squared	0.965886	Mean dependent var		2055.153
Adjusted R-squared	0.965155	S.D. dependent var		1309.700
S.E. of regression	244.4779	Akaike info criterion		13.86351
Sum squared resid	8367721.	Schwarz criterion		13.94601
Log likelihood	-994.1728	F-statistic		1321.312
Durbin-Watson stat	1.898287	Prob(F-statistic)		0.000000

Regression Result 2

Dependent Variable: AST

Method: Least Squares

Sample: 1 144

Included observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-1.198348	0.306195	-3.913683	0.0001
TRA	-0.193440	0.354684	-0.545388	0.5864
WAT	0.017802	0.000852	20.90606	0.0000
BNK	0.189430	0.082294	2.301875	0.0228
R-squared	0.799007	Mean dependent var		4.869792
Adjusted R-squared	0.794700	S.D. dependent var		3.231306
S.E. of regression	1.464107	Akaike info criterion		3.627752
Sum squared resid	300.1051	Schwarz criterion		3.710247
Log likelihood	-257.1982	F-statistic		185.5137
Durbin-Watson stat	1.837594	Prob(F-statistic)		0.000000

Regression Result 3

Dependent Variable: EMP Method: Least Squares Sample: 1 144 Included observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	2.627731	0.421547	6.233544	0.0000
EDU	1.934017	0.489538	3.950698	0.0001
AGE	0.370461	0.031474	11.77044	0.0000
NBK	0.860643	0.236141	3.644614	0.0004
R-squared	0.617929	Mean dependent var		8.097222
Adjusted R-squared	0.609741	S.D. dependent var		3.933573
S.E. of regression	2.457331	Akaike info criterion		4.663413
Sum squared resid	845.3862	Schwarz criterion		4.745908
Log likelihood	-331.7657	F-statistic		75.47452
Durbin-Watson stat	1.608473	Prob(F-statistic)		0.000000

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