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Research article

EFFECT OF VERTICAL INTEGRATION ON PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN KADUNA STATE, NIGERIA

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Abstract

The paper assesses the effect of vertical integration on performance of SMEs in Kaduna State. The population of the study comprise of all SMEs operating in Kaduna State. A sample size of 300 SMEs was randomly chosen. The Cronbach's alpha, Split-half test and Guttman's lambda were used in testing the reliability of the research instrument used in collecting data for the study. The paper concludes that there is no vertical integration in most SMEs operating in Kaduna State, as such; integration has no significant impact on their performance. This development was attributed mainly to the inadequate capital of the SMEs. To improve on the situation, the paper recommended the entrepreneurs concerned should endeavour to raise the capital base of the SMEs.

Key words: Effect, Vertical integration, Performance measurement and SMEs.

Introduction

Small and Medium Scale Enterprises (SMEs), all over the world, have served and remain as engine of growth and catalyst for socio-economic development in developed as well as developing countries (Aremu, 2010). SMEs serve as veritable tool for employment generation as well as development of entrepreneurial capabilities

and indigenous technology. For instance in the area of employment generation, SMEs in many developed and developing countries, absorb a large percentage of the labour force; 80% in Japan, 50% in Germany and 46% (Nwachukwu, 2012). In Nigeria, SMEs provide 70% of the industrial employment and 60% of the Agricultural sector employment (Lawal, 2010). Apart from employment generation, SMEs play significant role in, producing import substituting machinery, mitigating rural-urban drift, producing specialized items in small quantities to meet diverse needs, mobilization of local resources as well as stimulation of technological development and innovation (Ogunleye, 2000).

Despite the significant role SMEs play in the Nigerian economy and their potentialities, such enterprises in Nigeria are faced with myriad of problems. According to Ogbo and Nwacukwu, (2011), the problems include low capital, high labour turnover, low technology, inadequate infrastructural facilities, bureaucratic bottlenecks, multiplicity of regulatory agencies/taxes/levies etc. Though some of the problems like low capital and high labour turnover are internal, most of them have to do with the external business environment. These kinds of factors are difficult to handle by the SMEs themselves due to their limited finance and experience. In addition to the internal and external factors SMEs are grappling with, they faced increased competition with their counterparts and even large firms within and without mainly due to globalization occasioned by information communication technology (Jamil and Muhammed, 2011).

For the SMEs to favourably compete and survive in the continuously changing business environment, monitoring and measuring of performance is imperative. Performance measurement, especially for SMEs that are more vulnerable to environmental changes, is a major business/survival strategy and crucial element to improve business performance/competitiveness(Sharma, Bhagwat and Dangach, 2005). Most SMEs may have some kind of accounting systems in place, which usually constitute the major criterion for measurement of performance (Taticchi, Balachandran, Botarelli and Cagnazzo, 2008). Even though the accounting systems may be far from perfect, they represent a useful basis for measuring financial performance of the SMEs (Fry, 1992).

In view of the weaknesses and limitations of accounting systems as the major criterion for performance measurement, companies (small, medium and large) have since realized the need for devising other criteria for measuring performance (Taticchi et al, 2008). One of such criteria is ‘’Vertical Integration’’ a process that involve control of every facet of production, from obtaining the necessary materials to selling the finished products (www.wisegeek.org). In developed as well as developing countries, vertical integration comprising both forward and backward integrations, are more common with large scale business concerns than the small and medium scale ones (www.strategicmanagementinsight.com). This notwithstanding, forward and backward integration tend to have significant impact on performance of business enterprises and can therefore be used as criterion for measuring their performance.

The objectives of this paper are twofold. First, the paper intends to find out the extent of forward and backward integration among SMEs in Kaduna State. Second, the study will attempt to find out the effect of forward and backward integration on the performance of SMEs in Kaduna State.

Literature Review

Definition and characteristics of SMEs.

The definition of SMEs varies from time and country to country. The major factors used in defining or determining whether or not an enterprise is an SME are capital and number of employees (Onwumere, 2000). In Nigeria, small and medium scale enterprises as defined by the National Council of Industries(2008) refer to business enterprises whose total costs excluding land is not more than one hundred million naira (N1,000,000,000) only and a work force of between 11 and 70 full time staff. The Council defined a medium scale enterprise as enterprise with a total cost excluding cost of land of not more than 300 million naira and a staff strength of between 71 and 200 full time workers (Adeleke, 2012).

In addition to their definition, SMEs can equally be described and identified by means of their characteristics. Onwumere in Nwachukwu(2012) identified 21 characteristics of SMEs in Nigeria as follows;

- Labour intensive production processes
- Concentration of management on the key man
- Limited access to long term funds

- High cost of funds as a result of high interest rates and bank charges
- High mortality rate especially within their first two years
- Over-dependence on imported raw materials and spare parts
- Poor inter and intra-sectional linkages-they hardly enjoy economies of scale benefits
- Poor managerial skills due to their inability to pay for skilled labour
- Poor product quality output
- Absence of research and development
- Little or no training and development for their staff
- Poor documentation of policy, strategy, financials, plans and information systems
- Low entrepreneurial skills, inadequate educational or technical background
- Lack of adequate financial record keeping
- Poor capital structure, i.e low capitalization
- Poor management of financial resources and inability to distinguish between personal and business finance
- High production costs to inadequate infrastructure and wastages
- Use of rather outdated and inefficient technology especially as it relates to processing, preservation and storage
- Lack of access to international market
- Lack of succession
- Poor access to vital information.

SMEs in Nigeria can be found in all areas of business. According to Ogundele (2007) SMEs operate in the following areas:

- Servicing; the SMEs in this category provide services like photocopying, catering, transportation etc
- Retailing; these are SMEs that involved in buying goods and services from wholesalers for onward selling to consumers
- Wholesaling; these are SMEs that involved in buying goods and services in bulk from producers for onward sale or distribution to retailers
- Manufacturing; this category of SMEs are involved in production of goods and services which are distributed by agents or wholesalers and retailers
- Agriculture; these are SMEs that are engage in production and/or distribution of all kinds of agricultural products or services

Concept of Vertical Integration

Vertical integration (VI) is business strategy that allows a firm to gain control over its suppliers and/or its distributors in order to increase the firm's power to reduce cost of buying raw materials, secure source of supplies and/or distribution and selling of finished products (www.stratgicmanagementinsight.com). VI is categorized into 2; forward and backward. Forward integration is strategy in which an enterprise gains control or ownership of channels of distribution of its finished products. Example of forward integration for a bakery is control or ownership of the retail stores through which it distribute its bread. Forward integration may minimize delays in the final products reaching the customers and this makes the enterprise more competitive and profitable (http://www.investopedia.com). Backward strategy on the other hand, is a strategy where an enterprise gains control or ownership of its sources of raw materials. For a bakery, backward integration strategy involves control or ownership of wheat farm or wheat processor. Backward integration might cut transportation costs, improve profits margins and make the firm more competitive (http://www.investopedia.com).

The concept of vertical integration was pioneered by a world renowned steel tycoon, Andrew Carnegie. This led other entrepreneurs to embrace the idea of doing what they could to improve their organizations' fiscal growth and effectiveness through control over their supplies and distribution of the final product (htt://www.wisegreek.org).

Concept of performance measurement

Performance measurement is the process by which businesses, governments and other organizations establish criteria for determining the quality of their activities, based on organizational goals (Hall, 2013). Performance

measurement is meant to assess such things as production, demand and operating efficiency in order to get more objective sense of how the business is operating and whether improvement is required (http://www.businessdictionary.com). Hall (2013) identified the steps involved in the process of performance measurement as follows;

- Determination of objectives in areas like production, sales, cost of production/sales personnel etc
- Setting of performance targets such as increasing production by 20%, increasing sales by 25%, cutting down production cost by 15% etc
- Comparing actual performance against the set targets
- Identification of areas of strengths and weaknesses
- Determination and implementation of corrective measures

The concept and practice of performance management became popular in 1982, after publication of book titled ''In search of Excellence'' by Tom Peters and Bob Waterman. The Authors used performance measures to identify the characteristics of successful companies (Hall, 2013). From that time to date, performance measurement has been adopted in many business and non-business organizations and has become a specialty within the fields of business, management and public administration, referred to as ''performance management''

Performance Measurement in SMEs

Presently, business organizations (large, small and medium), are facing competition in globalized and highly dynamic markets. In order to compete in the continuously changing environments and sustaining their competitive advantage, it is very crucial that business organizations understand and monitor their performance (Jamil and Mohammed, 2011). Presently, in developing countries, large scale business organizations are more concerned with performance measurement than SMEs (Taticchi, Balanchandran, Botarelli & Cagnazzo, 2008). This has resulted in extensive research and discourse on performance measurement in large business organizations and less or no research on performance measurement in SMEs (Hudson, Smart & Bourne, 2001).Garengo, Biazzo & Bititci(2005) maintained that six out of the eight popular performance models being used, are more relevant to large scale business organizations. The two models relevant to SMEs are; Organizational Performance Measurement as developed by Chennell, Dransfield, Saunders & Shaw, 2000) and Integrated Performance Measurement for small firms as developed by Laitinen, 1996).

The Organizational Performance Measurement model is based on three principles: Alignment, i.e. the selected performance measures support the alignment between people's actions and company strategy; process thinking, i.e. the measurement system makes reference to the process of monitoring, control and improvement systems; and practicability, i.e. at any level in the company there is a consistent process for identifying measures that should be considered and for ensuring the quality and suitability of data(Jamil and Mohammed, 2011). The Performance Measurement for Small Firms is based on seven main dimension measures, classified as two external dimensions (financial performance and competitiveness) and five internal dimensions comprising costs, production factors, activities, products and revenues (Jamil and Mohammed, 2011). The internal dimensions are used to monitor the entire production process and the external dimensions are used to monitor the company's competitive position. This study will adopt the Performance Measurement for Small Firms in assessing the effect of vertical integration on performance of SMEs in Kaduna State.

Research Methodology

The population of the study comprise of SMEs operating in Kaduna State. The sample size of 300 was adopted and considered adequate, due to Kaiser Criterion that suggested a sample size of not less than 250 for a survey study. Chi square test statistic was used in analysing the data collected. Cronbach's alpha, Split-half test and Guttman's lambda were used in testing the reliability of the research instrument used in collecting data and it was found to be reliable. The instrument is attached as Appendix A.

Discussion of Result

This section presented the results of analysis. The results are as follows: reliability statistics, chi-square test, and subsequently interpreted the result.

Table 1: Reliability Statistics

		N
Cases	Valid	243
	Excluded	8
	Total	251
	Items	9
Cronbach's Alpha		.701
Split-half Coefficient		.681
Guttman Lambda		.681

The reliability statistics table above indicates that there are a total number of 251 cases of which 213 are valid and 8 are excluded. And also there are 9 items in each case. To assess the reliability of the factors, the researcher computes Cronbach's alpha, 0.701, which is coefficient of reliability and it suggests that the measures are acceptable.

The Chi square test was used in analysing the data collected.

Table 2: Statistical Test

Variable Attribute	**Chi Square**	***Df***	***Critical Chi***	**Level of Sig.**
F_1	7.5	4	9.488	.091
F_2	3.153	4	9.488	.500
F_3	8.911	4	9.488	.210
F_4	5.581	4	9.488	.343
F_5	4.5	4	9.488	.380
F_6	6.315	4	9.488	.311
F_7	4.903	4	9.488	.386
F_8	6.387	4	9.488	.065
F_9	7.52	4	9.488	.092

From the chi square computed above for 9 factors, three (F1, F8 & F9) are significant at 10%. Therefore the research deduced that there is no integration (forward and backward) in most SMEs in Kaduna State, as such, there is no significant effect of integration on the performance of the enterprises. The implication of this finding is that the SMEs under study have no control or ownership of their sources of raw materials and channels of distribution for their products. The said SMEs rely heavily on suppliers for procurement of raw materials and distributors for selling of their products.

Conclusion and Recommendation

Nowadays, companies, including SMEs operate in a highly competitive environment, mainly due to globalization and breakthroughs in information communication technology (ICT). Vertical integration can serve as a means of improving the competitive position of companies, including SMEs. Control or ownership of source of raw materials (backward integration) will guarantee continuous production and control or ownership of channels of distribution can guarantee market for the finished products. SMEs in Kaduna State cannot enjoy these advantages, which may result in improvement in their performance, as the study concludes that there no forward and backward integration in most of them. Since integration of any kind requires funds, it is recommended that entrepreneurs operating SMEs should endeavour to raise their capital base with view to integrating their business operations.

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Appendix A

S/No	Item	S. A	A	U	S. D	D
1	The enterprise has control or ownership of its sources of raw materials					
2	The enterprise has control over the channels of distribution of its finished products					
3	The enterprise's control of the sources of raw materials and/or channels of distribution, has improved its financial fortunes					
4	The enterprise's control of the sources of raw materials and/or channels of distribution, has improved its competitiveness in the industry					
5	The enterprise's control of the sources of raw materials and/or channels of distribution, has significantly reduce the cost of production					
6	The enterprise's control of the sources of raw materials and/or channels of distribution, has seriously facilitated securing of factors production comprising capital, land and labour					
7	The enterprise's control of the sources of raw materials and/or channels of distribution, has improve the quality and impact of its activities such as sales, customer relations, customer retainer ship etc					
8	The enterprise's control of the sources of raw materials and/or channels of distribution, has improved the quality and patronage of the product(s)					
9	The enterprise's control of the sources of raw materials and/or channels of distribution, has improve revenue generation from the sale of product(s)					

Key: SA=Strongly Agree, A=Agree, U=undecided, SD= Strongly Disagree and D= Disagree