

## **EFFECTS OF HUMAN CAPITAL DEVELOPMENT ON THE PERFORMANCE OF SMALL AND MEDIUM SCALED ENTERPRISES IN THE SOUTHEASTERN REGION OF NIGERIA**

Oforegbunam, Thaddeus Ebiringa and G. F. Okorafor

School of Management Technology, Federal University of Technology, Owerri, Nigeria

### **ABSTRACT**

Human capital is the most critical agent of small and medium enterprise (SME) performance. To this extent, a survey approach was adopted in investigating the effect of human capital development on the performance of SMEs. Fifty (50) entrepreneurs operating around the Aba SME cluster, located in the South-Eastern region of Nigeria were interviewed as it relates to their quantity of output, quality of output, revenue generated, and profits as indices of performance, while formal education from educational institutions, on-the-job training, and participation in seminars and trade fairs by SME employees were used as indices of human capacity development. The Likert 5-point scale was used in the quantification of responses. The multiple regression tool was used in analyzing the effect of human capacity development indices on the performance index. The result of the analysis shows that increased human capital development by sampled SMEs leads to significant improvements in their performances. However, on-the-job training was identified as the most significant option for developing the human capital of SMEs for enhanced performance.

**Keywords:** Education; Training; Development; Performance; Human capital

### **INTRODUCTION**

The recruitment of academically qualified employees is a necessary start for sustainable human capital development in all organizations. Human capacity has become a critical index of competition in the world of business to the extent that the development of such capacities through training has become top priority in designing the strategic plan of business organizations (Tim & Brinkerhoff, 2008). The above assertion seems more important for Small and Medium Scale Enterprises (SMEs) in Nigeria and other developing nations as they brace up ever increasing challenges of advancement in technology, deregulation, and globalization. In order to ensure that SMEs in Nigeria grow, develop, and remain globally competitive, they must train and develop their human capital in line with changing trends in technology and market economics. It seems a common practice among SMEs in Nigeria, to see training as a one-time activity, necessary only for new employees. This is a mistake given that on-the-job training, sponsorship to seminars and workshops, as well as participation in trade fairs and exhibitions for serving employees helps them adjust to rapidly changing job requirements and market conditions (Industrial Training Fund, 2006). However, other reasons for increased emphasis on the need for increased human capacity development for SMEs include:

- creating a pool of readily available and adequate replacements for employees who may leave or move up in the organization from internal sources;
- enhancing the SMEs' ability to adopt and use advances in technology and market opportunities because of a sufficiently knowledgeable workforce;
- building a more efficient, effective, and highly motivated team, which enhances the SMEs' competitive position and improves the employee morale; and
- ensuring adequate human resources for expansion into new programs.

Thus, Thaker (2008) summarized the above benefits into increased productivity, reduced employee turnover, increased efficiency resulting in financial gains, and decreased need for supervision. The central objective of this paper is to test the validity of the hypothesis, which suggests that investment in human capital development by SMEs does not lead to significant improvements in their performance.

### **Concept of SME**

A global definition of SMEs, using the size and scale of an operation, has not been possible, but within the fixed co-ordinates of national boundaries, it might be relatively easier. However, the definition, which represents the general view of what the SMEs stand for, is one which emphasizes those characteristics that might be expected to make their performance and other problems different from those of large enterprises. These features of the SMEs vary among countries and industrial groups. The difference, according to Ogunleye (2004), could be ascribed to the different capital requirements of each business, while those among countries could arise as a result of differences in the stages of industrial and economic development of countries. What might, therefore, be defined as SME in a developed country can be regarded as a large scale enterprise in a developing country, using such parameters as fixed investment and employment of the labor force.

Against this background, various classifications have been put forward by different institutions at different times as to what constitute as SMEs. However, for purposes of this paper, we adopted what was put forward at the 13<sup>th</sup> Council meeting of National Council on Industry held in July, 2001 and as reported by Udechukwu (2003), in which industries were classified into three groups that were based on size, which were:

- **Micro/Cottage Industry:**  
An industry with a labor size of no more than 10 workers, or a total cost of no more than ₦1.5M, including working capital, but excluding the cost of land.
- **Small Scale Industry:**  
An industry with a labor size of 11 – 100 workers or a total cost of not more than ₦50 million, including working capital, but excluding the cost of land.
- **Medium- Scale Industry:**  
The labor size is between 101 – 300 workers or a total cost of no more than ₦50 million, but no less than ₦200 million, including working capital, but excluding the cost of land.

We can therefore say that SMEs are those industries with a personalized management structure and a workforce no more than 300 workers, having fixed asset investment and working capital below ₦200 million, excluding the cost of land.

### **State of SME in Nigeria**

The performance of many SMEs operating in Nigeria in the most recent time has been hampered due to an inadequate capacity to take advantage of business opportunities. According to Akinshaw (2003), “SMEs have been estimated to represent up to 90 percent of all enterprises in Nigeria, employing no less than 70 percent of our local labor force, with a significant, but not easily quantifiable contribution to the Gross Domestic Product (GDP)”. However, a number of factors, among which include poor remunerations and inadequate opportunity for skills acquisition on new techniques, seems to be highly responsible for this (Centre for Management DevelopmentCMD, 2008). The performance level of most of these SMEs has been most unsatisfactory, as the problems of delay in delivery of services and high cost of service delivery has become a norm rather than an exception. In some other cases where the cost and time are within acceptable limits, the issue of customer satisfaction has often not been met simply due to the delivery of sub-standard outputs (Nnanna, 2004). All the above issues cumulate into cases of inability to take advantage of profitable opportunities in the market place. The possible reason for this may include that the majority of the employees may not have received adequate training and exposure to perform the functions they are assigned to. These problems have led to situations of low productivity on the part of the employees and poor performance on the part of the SMEs that employed them. However, in order to realize the objective of profit maximization by SMEs, the personnel involved in its operations must be adequately trained to enable them to be alert to their responsibilities, more importantly given the over-bearing effects of competition from the very large firms and from SMEs operating in Asia, made possible by globalization. The need for training of employees of SMEs cannot be over emphasized as technological changes have made it imperative that employees are trained and retrained on a continuous basis.

### **ROLE OF TRAINING IN HUMAN CAPITAL DEVELOPMENT**

Training is considered fundamentally important to human capital development. It could be described as the vehicle that takes organization to their destination within a stipulated time frame. The importance of human capital development to the survival of modern organizations cannot be overemphasized. For any organization to survive the competitive business world, it must train and retrain its human resources in consonance with its immediate and remote operational environment. Training of employees results in increased productivity in any organization. It helps SME employees attain self-fulfillment in personal goals as they work to achieve an organizational goal. Furthermore, it is pertinent to note that technological growth of any nation depends on the bulk of trained human resources available. John F. Kennedy, as reported by Gary (2001), once said, “Manpower is the basic resource, the indispensable means of correcting other resources to mankind’s use and benefit. How well we train, develop, and employ the human skill is fundamental in deciding how we will accomplish as organizations. The manner in which we do this will profoundly depend on the kind of nation we have.”

According to Thaker (2008), “training is an organized procedure by which people learn knowledge and skills for a definite purpose”. Tim and Brinkerhoff (2008) insist that human capital development represents the planned opportunity that is

provided for training, education directed and planned experiences, and guided growth. Zigon (2002) saw training as the overall process where by an individual's behavior is modified to conform to a pre-defined and specific pattern. Training is also a process or procedure through which skills, talents, and knowledge of employees are enhanced (Industrial Training Fund, 2006).

## TRAINING TECHNIQUES

The means by which one intends to communicate information, ideas, skills, attitudes, and feelings to learners is what is referred to as the training techniques (Gary, 2001). These training techniques are very crucial elements for the success of training. These techniques are often categorized according to whether they are employed for on-the-job or off-the-job training. On-the-job training is ideal for training unskilled and semi-skilled employees. It gives the trainees ample opportunity for learning on the actual equipment and in the environment of the job. This training technique gained acceptance during the second World War, where millions of unskilled men from Africa were trained to do thousand of different jobs in various war plants. On the other hand, training that is mostly done in the training school, where information, lectures, conferences, panel discussions, and computer-assisted instructions that are imparted to the skilled trainees, are usually the styled off-the-job training techniques. Generally, on-the-job training programs for employees, as reported by David, W.T., Nicholas, Y., & Fred, F. (2006) may be by way of induction training, apprenticeship training, and supervisory training.

## Management Development

Management development according to Thaker (2008), is known as a form of leadership training. It is the training in management techniques and development of managerial abilities of a group of middle and top level employees, which most, at times, adopt the lecture method. This is an important aspect of the training program, which must be widely practiced if the general efficiency of the SME is to be improved by a more competent management. When many trainees are involved in learning one skill together at one place, the emphasis is not on production, but on learning. This training technique is an attempt to duplicate, as nearly as possible, the actual equipment and conditions found in a real work place. Theory can easily be represented in a vestibule school than on the job.

## Theoretical Framework

SME performance is measured using four basic parameters, critical to their operations, as opined by Akinawo (2003). These include: the ability to meet planned output quantities ( $y_1$ ); the ability to meet market demand for product/service ( $y_2$ ); the ability to deliver quality products/service to customers ( $y_3$ ); and, above all, the ability to meet planned profit levels ( $y_4$ ).

$$y_i = w(R) \quad \dots \quad 1$$

Where:

$w$  is weighting of the response and  $R$  is respondent's expression (strongly agree, agree, undecided, disagree, or strongly disagree). The weighting of response is the order of 5, 4, 3, 2, and 1, respectively.

A measure of the performance of SMEs ( $Y$ ) is expressed as:

$$Y = \sum y_i ; \text{ for } i \text{ ranging from } 1 \text{ to } 4. \quad \dots \quad 2$$

The effect of human capital development efforts of SMEs on their performance level is measured using the construct:

$$Y = a_0 + b_1X_1 + b_2X_2 + \dots + b_4X_4 + e_0 \dots \quad 3$$

Where:

Y : is the dependent variable, which stands for the performance level of SMEs,

X<sub>1</sub> (level on-the-job training),

X<sub>2</sub> (level of formal education),

X<sub>3</sub> (level of participation in seminars, conferences and workshops),

X<sub>4</sub>(participation in trade fairs and Exhibitions), representing the extent of use of human capital development options by SMEs, as opined by David, W.T., Nicholas, Y., & Fred, F. (2006) .

a<sub>0</sub> , b<sub>1</sub>, b<sub>2</sub> . . . . b<sub>4</sub> represents the coefficients to be estimated.

## Methodology

Registered SMEs operating in Aba, as shown on the register of the Abia State Ministry of Commerce and Industry, constituted our target population. They are categorized into manufacturing and processing; fabrication and construction; trading and commerce as well as professional services.

Primary sourced data is the main data used for analysis, as shown in Table 1. These were collected using a 5-point Likert scale questionnaire, administered to the selected SME operators. This did not pose a problem, due to the fact that the questionnaires were administered through the secretariat of the Aba Chamber of Commerce & Industry. A total of forty-nine questionnaires were distributed, but only forty-seven were returned and found correctly completed.

**Table 1: Sample Distribution**

Types of Business	Population	Sample	Percentage (%)
Trading & Commerce	32	20	41.03
Fabrication & Construction.	16	10	20.51
Manufacturing & Processing	11	7	14.10
Professional Services.	19	12	24.36
Total	78	49	100

Source: Abia State Ministry of Commerce & Industry.

The weighted scores of their response were summarized and subjected to analysis using the multiple regression analysis. The analysis carried out included the correlation matrix; the correlation coefficient (R); the coefficient of determination (R<sup>2</sup>); the F-test, and the t-test.

**TABLE 2: Summary Weighted Scores of Responses.**

<b>Respondent</b>	<b>Y</b>	<b>X<sub>1</sub></b>	<b>X<sub>2</sub></b>	<b>X<sub>3</sub></b>	<b>X<sub>4</sub></b>
1	28	26	27	27	26
2	28	26	27	24	29
3	12	17	22	24	23
4	19	21	21	28	24
5	12	18	9	13	15
6	9	26	29	24	23
7	13	23	24	24	23
8	18	20	24	22	22
9	15	21	22	3	22
10	28	26	27	27	26
11	28	26	27	24	29
12	12	17	22	24	23
13	19	21	21	28	24
14	12	18	9	13	15
15	9	26	29	24	23
16	13	23	24	24	23
17	18	20	24	22	22
18	12	17	22	24	23
19	19	21	21	28	24
20	12	18	9	13	15
21	9	26	29	24	23
22	13	23	24	24	23
23	18	20	24	22	22
24	8	2	27	24	29
25	15	21	22	3	22
26	28	26	27	27	26
27	28	26	27	24	29
28	12	17	22	24	23
29	19	21	21	28	24
30	12	18	9	13	15
31	9	26	29	24	23
32	13	23	24	24	23
33	18	20	24	22	22
34	28	29	27	24	29
35	15	21	22	3	22
36	28	26	27	27	26
37	28	26	27	24	29
38	12	17	22	24	23
39	19	21	21	28	24
40	12	18	9	13	15
41	9	26	29	24	23
42	13	23	24	24	23
43	18	20	24	22	22
44	15	21	22	3	22
45	8	2	27	24	29
46	15	21	22	3	22
47	28	26	27	27	26

Source: Computed from Field responses

Where: Y = Performance level of SMEs; X<sub>1</sub> = level of on-the-job training; X<sub>2</sub> = level of formal education; X<sub>3</sub> = level of participation in seminars, conferences and workshops; and X<sub>4</sub> = level of participation in trade fairs and exhibitions.

## RESULTS and DISCUSSION

Table 2 presents a summary of the weighting of the opinion of our respondents (human resources officers of SMEs) based on four human capital development options, identified in this study as being in use by SMEs, for the analysis of their effects on the performance of SMEs. The scores are based on the weighting of their ranking of each option and the summation of the weighted scores for each of the firms. The first effort made in analyzing Table 2 is to determine the descriptive statistics for each of the variables by way of sample means and standard deviations.

**Table 3: DESCRIPTIVE STATISTICS**

Variable	Mean	Standard Deviation	Sample size
Y	17.1064	6.4782	47
X <sub>1</sub>	21.9787	3.5355	47
X <sub>2</sub>	22.7660	5.4422	47
X <sub>3</sub>	21.5532	6.9839	47
X <sub>4</sub>	23.0851	3.5742	47

Table 3 shows that the variable with the least mean is Y, “performance level of SME”, while the highest is X<sub>4</sub>, “participation in trade fairs and exhibitions”, which is one of the independent variables. Also the variable with the least standard deviation is X<sub>1</sub>, “level on-the-job training”, while the variable with the highest deviation is X<sub>3</sub>, “level of participation in seminars, conferences and workshops”.

### Correlation of Training Methods of SMEs

The variables are subjected to correlation analysis, with the objective of assessing the level, nature, and significance of the relationships among the variables, as well as to test the existence of multi-collinearity among the variables.

**Table 4: CORELATION MATRIX**

Variables	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>
Y	1.00	0.532**	0.340*	0.299*	0.696**
X <sub>1</sub>	0.532**	1.00	0.704**	0.308*	0.685**
X <sub>2</sub>	0.340*	0.704**	1.00	0.466**	0.826**
X <sub>3</sub>	0.299*	0.308*	0.466**	1.00	0.528**
X <sub>4</sub>	0.696**	0.685**	0.826**	0.528**	1.00

Sources: Computer Analysis of Table 1 Data using SPSS Package

\* significant at 0.05 level (2-tailed); \*\* Significant at 0.01 level (2-tailed)

Table 4 shows that the least correlation is between Y and X<sub>3</sub>, (level of participation in seminars, conferences, and workshops), with a coefficient of 0.299, while the highest is between X<sub>2</sub> (level of formal education) and X<sub>4</sub> (participation in trade fairs and exhibitions) with a coefficient of 0.826, implying that X<sub>2</sub> and X<sub>4</sub> seems to exhibit a multi-collinearity problem, for which only one becomes relevant for efficient ordinary least square regression analysis.

**Table 5: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.565 <sup>a</sup>	.319	.271	5.71779	1.212

a. Predictors: (Constant), X<sub>3</sub>, X<sub>1</sub>, X<sub>2</sub>

b. Dependent Variable: Y

### Effect of Human Capital Development Option on SME Performance

Table 5 shows the summary statistics of the analysis of the human capital development variables X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub>, on Y. The coefficient of correlation (R) = 0.565; the coefficient of determination (R<sup>2</sup>) = 0.319; and the standard error estimate of 5.717, indicating 56.5% of the sampled SME's performance can be associated to her promotion of on-the-job training (X<sub>1</sub>); formal education (X<sub>2</sub>); and participation in seminars, conferences, and workshops (X<sub>3</sub>), as strategies of human capital development for her employee. It equally shows that SMEs can achieve a 31.9% average increase in aggregate performance levels if it concentrates their human capital development efforts on the above three identified options.

**Table 6 : ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	657.598	3	219.199	6.705	.001 <sup>a</sup>
	Residual	1405.806	43	32.693		
	Total	2063.404	46			

a. Predictors: (Constant), X<sub>3</sub>, X<sub>1</sub>, X<sub>2</sub>

b. Dependent Variable: Y

Table 6 shows that the F-ratio of 6.705 is significant, even at the 0.001 margin of error, implying that equation 4 is a good fit of Y. The coefficients of the identified variables of human capital development, as contained in equation 3, were estimated as shown on Table 7.

**Table 7: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.850	4.393		-.194	.847
	X <sub>1</sub>	.618	.169	.488	3.652	.001
	X <sub>2</sub>	.038	.181	.031	.207	.837
	X <sub>3</sub>	.170	.127	.190	1.336	.188

a. Dependent Variable: Y

Table 7 shows that the model for analyzing the effect of human capital development activities of the sampled SMEs on the firm performance is as shown on equation 4:

$$Y = -0.850 + 0.618X_1 + 0.038X_2 + 0.17X_3 \quad . . 4$$



(3.652\*)      (0.207)      (1.336)

### **Effect of Human Capital Development on SME Performance**

The hypothesis (Human capital development does not lead to significant improvements in the performance of SMEs) . earlier stated is tested using equation 4, but with specific attention to the F-statistics, as shown in Table 6. The Fcal of 6.705 is significant at 0.01 level. We, therefore, reject the hypothesis and conclude that human capital development leads to significant improvements in the performance of SMEs. Also the tcal value is 3.652\*, 0.207, and 1.336 for  $X_1$ ,  $X_2$ , and  $X_3$ , respectively, which shows that only  $X_1$  is significant at 0.01 level, which implies that on-the-job training is the most critical human capital development option for improving the performance level of SMEs.

### **CONCLUSION**

Based on the above findings the conclusions of the paper is that SMEs in Nigeria can attain significant improvement in their performance levels if effort is made to develop human capital through a three prong strategy of on-the-job training, formal education, and participation in seminars, conferences, and workshops. However the extent to which the above is being achieved presently is constrained by inadequate vocational and entrepreneurship content of formal education programmes of educational institutions in Nigeria. The insignificant contribution of variable ( $X_2$ ) in equation 4 attest to the above. Equally, it is critically important that employees of SMEs are encourage to acquire enough practical skill, learning and experience, which, in the long run, ensures efficiency and sustainable human capacity development for enhance performances. This can be attain through the promotion of on-the-job training programmes. The significant positive contribution of  $X_1$ , in equation 4, confirms the above. However, the effect of formal education and on-the-job training on human capacity development can be sustained through adequate participation of SME employees in seminars, conferences, and workshops ( $X_3$ ). These are veritable tools for enhancing and updating the knowledge, skills and experiences of the SME employees as it ensures proper networking and cross fertilization of technical, industry, environmental and business information and ideas across firms and industrial sectors. It also provides SMEs a cheaper way of exposing their employees to modern developments in methods, techniques and procedure as it relates to projects and operations. The presence of  $X_3$ , in equation 4, although insignificant, confirms the above.

Based on the above conclusions, the recommendation of the paper is that concerted efforts need to be made by the relevant bodies in the education sector in Nigeria to enhance the vocational and entrepreneurship content of academic programs, offered by tertiary institutions in the country. To this extent the National University Commission (NUC) and the National Board for Technical Education (NBTE) must ensure the enforcement of the compulsory minimum six (6) credit units of entrepreneurship development studies courses in all curricula of courses offered by Universities, Polytechnics and Colleges of Education in Nigeria. The success of the above can be sustained through private and public sector collaboration during accreditation of academic programmes.

However, the above effort will equally ensure that employees of SMEs are exposed to results of researches through participation in seminars, trade fairs, workshops and exhibition for showcasing as well as acquisition of current information on technological, industrial, market and management information.

However it must be noted that, the positive effects of all the above of productivity can not be achieved if SME entrepreneurs fail to sustain the tempo of on-the-job training of employees as it is strategic to the development of skills, experiences, and productive capacity of SMEs in the face of the increasing competition made possible by deregulation and globalization.

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## ABOUT THE AUTHORS

Oforegbunam, Thaddeus Ebiringa and G. F. Okorafor are Lecturers in the School of Management Technology, Federal University of Technology, Owerri, Nigeria