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IMPACT OF COST REDUCTION TECHNIQUES ON OPERATIONAL EFFICIENCY OF NIGERIAN TEXTILE INDUSTRY (A STUDY OF SELECTED TEXTILE FIRMS IN NORTHWESTERN STATES)

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ABSTRACT

The study examined the impact of cost reduction techniques on operational efficiency of Nigerian Textile industry using selected textile firms operating within North-Western Nigeria as a reference point. Primary data for the study were obtained through a structured questionnaire administered to five hundred and fifty six (556) staff of these firms. Data obtained were descriptively analyzed using means and standard deviation as well simple regression. The result of the descriptive analysis show that activity based costing (ABC) has significant and positive impact on firm Survivals (FS) in Nigeria. The regression result also indicated that the explanatory variable has significant impact on FS at 0.05 level of significance. It was further revealed in the regression analysis that about 60% of the variation in the rate of FS (Dependent Variable) is explained by the value of the predictor variable (ABC). Based on the findings, the study recommends continued implementation of the accounting technique (ABC) for cost reduction and efficiency of the existing textile firms in Nigeria

Keywords: *Efficiency, Cost Reduction, Activity-Based Costing, Implementation, Technique*

INTRODUCTION

Nigeria's export history over the years is that of over dependence on oil for export. The adjudged resource endowment of oil has some negative implication for other sector of the economy particularly the manufacturing for her inability to export manufactured goods (Ebiai, 2016) The World Bank (2015) discusses the need for African countries to diversify their exports and be innovative in at the area of manufacturing. This is highly relevant in the case of Nigeria where there is stunted growth in her export activities due toover dependence on oil as the major source of export.

In development literature, industrialization which largely depends on production level is adjudged as the major driving force of modern economy (Anyawu 2015). In most economy, manufacturing sector plays a pivotal role in production of goods for local consumption and export. It is always described as the heart of an economy largely depended upon for employment generation, enhancement of incomes and standard of living. The sector plays a catalytic role in modern economy crucial for economic transformation. In many developed and developing nations, the sector serves as the prime mover and driver of the entire economy.

In the light of the above, Nigeria has employed several strategies which were aimed at enhancing the productivity of sector to bring about the needed economic growth and development for instance, Structural Adjustment Programme (SAP) was introduced in 1986 to reduce the high dependence of the economy on crude oil as a major foreign exchange earner by promoting non-oil exports particularly

manufactured goods. Unfortunately the objective of this lofty programme was hindered by continuous decay/deteriorating infrastructure in the economy that hindered production of goods interms of quality and quantity. One of the key indices of economic growth of any nation is the quality and quality of her output interms of goods and services which in Nigerian case have been low overtime with negative consequences particularly on textile manufacturers in the country.

The textile industry is one of the oldest, largest and most acknowledged global manufacturing industry in the world. It is a typical starter in industry for countries engaged in export oriented industrialization. Textile and clothing play major role in the development and industrialization process of countries and their integration into the world economy (Edem, 2012). The technological features of textile industry have made it suitable as the first step on the industrialization ladder in poor countries some of which have experienced a very high output growth in the sector. Countries such as Bangladesh, Srinlanka, Vietnam and Mauritius have since become middle income nations through their clothing and textile industry. Clothing is a key manufacturing export for many developing countries of Africa. Countries such as Lesotho (64%) Madagascar (56.4%) and Mauritius (51.2%) all depend on more than 50% on clothing for her export (Babaye, 2014).

Unfortunately, export history of Nigerian textile industry is a sad story. A survey of technological gaps in the industry revealed that only 12 mills (industry) representing 61% of the total capacity spin only cottonwhile25% of the existing mills are integrated mills (Babaye 2014). It has also been observed that most of the firms in the industry operate on low spinning capacity and they are generally lagging behind technologically without any hope of improvements in the weaving mills. Also labour productivity in spinning operations is not high because of low capacity utilization and inadequate provision for on-the job training. Low productivity levels limit export capacities. With liberated economic policies that Nigeria offers under the Multi-Fibre Agreement (MFA) foreign entrepreneurs are induced to establish export oriented plants in the country(Ojalaka, 2015). Traditionally, Nigeria is noted for production of cotton, silk and other fibres which are primary materials for textile industries. However, the situation has changed today Nigeria now relies on imported raw materials and foreign technology to make the industry function. This is certainly a minus on the productive and innovative ability of the country in dire need of industrialization.

The Nigerian manufacturing sector is generally experiencing a state of declination particularly the textile industry. Various reasons have been attributed to the collapse of the industry particularly high cost of production due to inefficiency in the manufacturing process and loss of quality and competitiveness in the global market. The industry is more labour driven than automation and this has a serious implication on the competitiveness of the product. Fully automated system have limitations in Nigeria where power, water other basic amenities required for productions are epileptic. Inability of Nigerian government to manage her border and the mad rush of Nigerians for foreign clothing in preference for locally made ones have led to the smuggling of both second hand and new clothing materials into the country. It has been reported that government loses about $600million to smuggling materials, about $7billion worth of textile materials on the foreign designs floods nations market annually and about 80 percent of these are smuggled. (Babaye, 2014). Nigerian markets are now flooded with foreign clothing materials considered to be of higher quality than that of Nigeria product (Mur, 2011). Poor quality of made in Nigeria fabrics largely attributable to high operational cost has jeopardized the survival of many textile firms in Nigeria over the years. The sad effect is that many firms in the industry have since shutdown

their operation.

Many manufacturers of textile materials in countries such as China, Japan, UK, India, Indonesia, Senegal, Egypt etcetera have drastically reduced their cost of operation with improved quality through the implementation of cost reduction techniques (Mur, 2011). Adoption of techniques such as target costing, benchmarking, value chain analysis, teardown analysis, quality control, lean manufacturing, six sigma system and total quality management are reduction techniques behind quality delivery of many textile firms particularly in UK and India (Mur, 2011).

In view of the success story of textile firms in many developing and developed nations of the world, few textile firms still operating in Nigeria have worked hard to identify some cost reduction techniques for improved efficiency and quality production. Gado (2013) observed that many textile firms in the country have adopted techniques such as Target Costing (TC), Life Cycle Costing (LCC), Activity Based Costing (ABC), Inventory Control System (ICS) and Standard Costing (SC) to improve the quality of their products at lower operational cost. Similarly, Nasieku and Oluyinka (2016) observed that accounting techniques adopted by most manufacturing firms in developing nations of Africa in the last decade for efficiency include TC, LCC, SC, ABC and ICS. However, the level of usage of these depends largely on the size and organizational culture of each firm (Nasieku and Oluyinka, 2016)

Gado (2013) stated that the quality of made in Nigeria textile products have significantly improved leading to increased patronage both locally and internationally. On the contrary, Ebiai (2016), viewed that the quality of made in Nigeria clothing materials is still poor as consumers including Nigerians prefer clothing materials even from African countries such as Senegal and Egypt to Nigeria textile products. These are the two contradicting views about the impact of implementation of cost reduction techniques on the efficiency of the manufacturing process of Nigeria textile firms for survival has not been empirically tested. It is against this backdrop that this study will test the significance of the impact of the implementation of ABC technique on the efficiency of the surviving textile firms in Nigeria.

The general objective of the study is to examine the impact of cost reduction techniques on operational efficiency of Nigerian textile industry with particular reference to selected textile firms in North Western zone of the country. The specific objectiveis to examine the impact of Activity Based Costing on operational efficiency of Nigeria textile firms.

REVIEW OF RELATED LITERATURE

Conceptual Review

Operational Efficiency

In a manufacturing setting, efficiency in operation is attained through lowering of cost of operation. Enemah (2012) sees efficiency of an operation as the ability to avoid wasting of materials, energy, money and time in doing something or producing a desired result. Ogaru (2014) defined operational efficiency as the ratio of input resources to output. Anandet'al (2013) sees operational efficiency to comprise the capability of a specific application of effort to produce a specific outcome with a minimum amount or quantity of waste expense or un-necessary effort. Babaye (2014) viewed operational efficiency as a concept measured as a ratio of useful output to total input expressed with the mathematical formula: r=p/c where p is the amount of useful output per the amount of cost (C) of resources consumed during an operation.

Cost Reduction Techniques

Oloko (2013) suggested that cost reduction is a managerial effort applied to all areas of operations of an enterprise through application of factors of production for efficiency. Cost reduction can be understood as the perennial decrease in unit cost of goods produced and services provided by a company without compromising quality and suitability for the use intended with the help of new and

improved methods. It is a systematic and corrective technique used by firms to cut the inessential expenses on goods manufactured for increased efficiency (Bell et.al, 2014). Cost reduction is a process of reducing the amount of expenses a company incurs on all its operations in order to make the company more efficient for competitiveness. It is a managerial tool to boost efficiency in all operations of an organization. Franklin (2014) viewed cost reduction as a process involving conduction of some innovations in the way of working in a new style so that excess costs of operation could be eliminated for increased efficiency. Ochonu (2015) suggested that cost reduction is a management tool and a technique designed to accomplish improved standards and methods of operation for efficiency.

Activity Based Costing, ABC here on,it is a cost reduction technique that is implemented by identifying the costs of activities of an organization. Identification of various organization's activity enables management to know those activities with the highest cost so that they can be prioritized for detailed study. The study carried out by management will further allow for classification of these costs into either value added or non-value added. Non-value added activities are essentially those activities that do not add value to a product and so customers are not expected to pay for (Drury, 2005). Reporting the cost of non-value added activity draws management attention to the vast amount of waste that has been incurred by the organization. These activities are identified with the greatest potential for cost reduction by either eliminating them or carrying them out efficiently. Typical examples of such cost in a manufacturing setting are cost of material movement and improving production flaws in the factory. Management action to reduce or eliminate non-value added activities promote efficiency (Fawzia and Nasria, 2003).

Empirical Review

Shaban and Shabana (2014) did study the benefits of the application of ABC System on manufacturing companies operating in Allahabad city – India. The aim of the study was to identify the benefits of the application of ABC System in manufacturing firms. Data was collected through questionnaire distributed to 106 respondents in these companies. 85 questionnaires representing about 80% were returned. Data obtained were analyzed using supplied descriptive analysis. The result of the analysis indicated that the application of ABC system is beneficial in the sense that it helps these companies to calculate the cost of the products more accurately provides financial and non-financial information that assist in taking sound managerial decisions such as price fixation and exclusion of activities that do not add value to the product. It was therefore recommended that manufacturing companies should apply ABC system as cost reduction strategy for enhanced output.

Nelson et'al (2014) conducted a study on the impact of cost reduction strategy using ABC on performance of tea factories in Embu county Kenya. The study aimed at determining the impact of ABC initiated by various tea factories in Embu country. A total of 18 managers, 40 employees and 225 tea manufacturers were sampled. Data from the respondents were collected through structured questionnaire. The collected data were analyzed descriptively using frequencies and simple percentage. The empirical result revealed that of efficiency of the firms has been in the increase which implied that ABC as a cost reduction measure has a correlation with operational efficiency. The study recommended the adoption of the techniques (ABC) for manufacturing firms.

Azzouz and Zhang (2013) did study on the relationship between ABC, business strategy and performance in Morrocan enterprises. The aim of the study was to examine the impact of ABC on managerial efficiency. Data for the study was collected from a sample of respondents through structured questionnaire. Using logistic regression analysis to analyze the data

collected, it was found that management accounting system based on ABC method results in a better performance and efficiency for enterprises that adopted the technique. The study recommended the adoption of ABC system for efficiency and survival of firms in competitive global environment.

Emekaet'al (2014) did study on product cost management in developing countries: Activity – Based Costing. The purpose of the study was to examine the role of ABC in product management in developing nations such as Nigeria. Data for the study were collected through questionnaire issued to 58 sampled companies in south eastern Nigeria. Analysis of the responses was done with the use of students'T- test and Multivariance Analysis of Valance (MANOVA). The result from the analysis reveals that product costs are lower with the use of ABC. The study recommended the adoption of ABC by manufacturing firms in developing countries for operational efficiency. That efficiency will impact positively on the competitive advantage of manufacturing firms in developing countries in the international market.

Theoretical Framework

The study is anchored on production theory propounded in the year 1978 (). The production function as contained in the production theory shows the relationship between input changes and output changes. It also shows the maximum output that can be obtained by a firm from fixed quantity of resources (Hiller and Lieberman, 2007). The production function is expressed as Q=f(K+L+ectera) where Q is the Output (The dependent variable), K and L are Capital and Labour respectively (input resources or dependent variable) plus other factors including managerial techniques such as implementation of LCC and ABC that will improved the quantity and quality of output (Cinquini and Tenucci, 2010). Improved quality and quantity of manufacturing process with less input resources is an indication of efficiency (Hiller and Liberman, 2007). Production theory has two key assumptions namely: (i) that the quantity of resources and (ii) that the limited resources are used in an efficient manner for survival of an entity.

Methodology

The study adopted a survey design using questionnaire. The questionnaire administered were designed to reflect five (5) point likert scale. Out of five hundred and fifty six (556) questionnaire distributed to staff of the selected textile firms, three hundred and seventy five (375) representing about 67percent were received. Data analysis was done descriptively as well regressional approach.

Model Estimation

In the regression analysis, the R-Square (R^2) was used to explain the degree of variations of the dependent variable caused by the independent variable. The prior expectation was that that $B_1 > 0$.

Model Specification

In the study, y = a + b, x, equation 1. But from the study, operational efficiency proxied by firm survival represent y while x_1 represent the independent variable (predictor variable) decomposed as ABC. Substituting these in equation 1, we have

FS = a + b_1, ABC – equation 2. Therefore equation 2 was used in the analysis.

RESULTS

Descriptive analysis by companies

African Textile Manufacturer (Atm)

Table 1: Mean Summary Of Rated Responses On Activity Based Costing (Abc) And Its Contribution To Efficiency And Survival Of Textile Firms In Nigeria

S/N	ITEMS	SA (5)	A(4)	UND(3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	23 (115)	**24 (96)**	**9 (27)**	**4 (8)**	**1 (1)**	61 **(247)**	**4.05**
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	10 (50)	40 (160)	1 (30	10 (20)	0	61 (233)	3.82
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	26 (130)	25 (100)	2 (6)	8 (16)	0	61 (252)	4.13
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	21 (105)	38 (152)	2 (6)	0	0	61 (263)	4.31
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	11 (55)	40 (160)	7 (21)	2 (4)	0	61 (240)	3.93
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	13 (65)	30 (120)	10 (30)	5 (10)	1 (1)	61 (226)	3.70
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	14 (70)	28 (112)	1 (3)	18 (36)	0	61 (221)	3.62
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	18 (90)	31 (124)	0	3 (6)	8 (8)	61 (228)	3.74
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	12 (60)	35 (140)	2 (6)	11 (22)	0	61 (228)	3.74
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	7 (35)	51 (204)	1 (3)	2 (4)	0	61 (246)	4.03
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	16 (80)	18 (72)	5 (15)	21 (42)	0	61 (209)	3.43
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	27 (135)	30 (120)	3 (9)	1 (2)	0	61 (266)	4.36
	TOTAL	198 (990)	390 (1560)	43 (129)	85 (170)	10 (110)	61 (2859)	46.86
	Grand Mean	82.50	130	10.75	14.16	0.83	238.25	3.91

Source: Computations from survey data

Tofa Textile Limited

Table 2: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria

S/N	ITEMS	SA (5)	A(4)	UND(3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	10 (50)	38 (152)	2 (6)	0	1 (1)	51 (209)	4.10
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	4 (20)	41 (164)	2 (6)	4 (8)	0	51 (198)	3.88
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	3 (15)	37 (148)	2 (6)	8 (16)	1 (1)	51 (186)	3.65
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	8 (40)	32 (128)	2 (6)	1 (14)	1 (1)	51 (189)	3.71
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	5 (25)	41 (164)	0	4 (8)	0	51 (197)	3.86
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	5 (25)	40 (160)	0	4 (8)	1 (1)	51 (194)	3.80
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	3 (15)	41 (164)	1 (3)	5 (10)	1 (1)	51 (193)	3.78
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	5 (25)	36 (144)	0	8 (16)	2 (2)	51 (187)	3.67
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	9 (45)	33 (132)	0	6 (12)	2 (2)	51 (191)	3.75
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	5 (25)	29 (116)	6 (18)	7 (14)	2 (2)	51 (175)	3.43
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	6 (30)	24 (96)	9 (27)	9 (18)	3 (3)	51 (174)	3.41
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms' particulars textile industry of Nigeria for attainment of efficiency.	6 (30)	23 (92)	13 (39)	8 (16)	1 (1)	51 (178)	3.49
	Total	69 (345)	415 (1660)	37 (111)	70 (140)	15 (15)	51 (2271)	44.53
	Grand Mean	28.75	138.33	9.25	11.67	1.25	189.25	3.71

Source: Computations from survey data

Funtua Textile Limited (FTL)

TABLE 3: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria

S/N	ITEMS	SA (5)	A(4)	UND(3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	14 (70)	45 (180)	2 (6)	1 (2)	0	62 (258)	4.16
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	12 (60)	44 (176)	1 (3)	2 (4)	0	62 (243)	3.92
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	20 (100)	33 (132)	4 (12)	4 (8)	0	62 (252)	4.06
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	14 (70)	43 (172)	0	4 (8)	0	62 (250)	4.03
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	17 (85)	36 (144)	3 (9)	6 (12)	0	62 (250)	4.03
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	12 (60)	38 (152)	4 (12)	7 (14)	0	62 (238)	3.84
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	10 (50)	41 (164)	2 (6)	7 (14)	2 (2)	62 (236)	3.81
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	10 (50)	50 (200)	0	1 (2)	0	62 (252)	4.06
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	18 (90)	43 (172)	0	1 (2)	0	62 (264)	4.23
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	18 (90)	39 (156)	2 (6)	3 (6)	0	62 (258)	4.16
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	13 (65)	44 (176)	2 (6)	2 (4)	0	62 (251)	4.05
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	9 (45)	45 (180)	6 (18)	2 (4)	0	62 (247)	3.98
	Total	167 (835)	501 (2004)	26 (78)	40 (80)	0	62 (2999)	48.33
	Grand Mean	69.58	167	6.5	6.67	0.17	249.9	4.03

Source: Computations from survey data

Adhama Textile Company Ltd

TABLE 4: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria

S/N	ITEMS	SA (5)	A(4)	UND(3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	9 (45)	44 (176)	0	0	0	53 (221)	4.17
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	9 (45)	42 (168)	2 (6)	0	0	53 (219)	4.13
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	9 (45)	43 (172)	1 (3)	0	0	53 (220)	4.15
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	6 (30)	45 (180)	1 (3)	0	1 (1)	53 (214)	4.04
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	8 (40)	42 (164)	0	1 (2)	1 (1)	53 (211)	3.98
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	11 (55)	38 (152)	0	4 (8)	0	53 (215)	4.06
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	7 (35)	41 (164)	0	4 (8)	0	53 (207)	3.91
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	12 (60)	33 (132)	2 (6)	3 (6)	2 (2)	53 (206)	3.89
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	10 (50)	29 (116)	7 (21)	2 (4)	3 (3)	53 (194)	3.66
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	9 (45)	26 (104)	10 (30)	2 (4)	4 (4)	53 (187)	3.53
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	12 (60)	26 (104)	8 (24)	1 (2)	2 (2)	53 (208)	3.92
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	11 (55)	30 (120)	9 (27)	2 (4)	1 (2)	53 (208)	3.92
	Total	113 (565)	439 (1756)	40 (120)	19 (38)	15 (15)	53 (2494)	47.06
	Grand Mean	47.08	146.33	10	3.17	1.25	207.83	3.92

Source: Computations from survey data

Angel Spinnings

TABLE 5: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria

S/N	ITEMS	SA (5)	A (4)	UND (3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	11 (55)	36 (144)	0	0	0	48 (199)	4.15
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	3 (15)	43 (172)	1 (3)	0	0	48 (190)	3.96
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	1 (5)	45 (180)	0	0	0	48 (185)	3.85
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	2 (10)	44 (176)	0	0	0	48 (186)	3.88
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	4 (20)	41 (164)	1 (3)	1 (2)	0	48 (189)	3.94
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	2 (10)	41 (164)	3 (9)	1 (2)	0	48 (185)	3.85
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	1 (5)	43 (172)	2 (6)	1 (2)	0	48 (185)	3.85
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	3 (15)	43 (172)	1 (3)	0	0	48 (190)	3.96
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	2 (10)	43 (172)	1 (3)	0	1 (1)	48 (186)	3.88
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	1 (5)	43 (172)	2 (6)	1 (2)	0	48 (185)	3.85
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	0	42 (168)	3 (9)	2 (4)	0	48 (181)	3.77
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	11 (55)	26 (104)	2 (6)	7 (4)	0	48 (179)	3.73
	Total	41 (205)	490 (1960)	16 (48)	13 (26)	1 (1)	48 (2240)	46.67
	Grand Mean	17.08	163.33	4	2.17	0.08	186.67	3.89

Source: Computations from survey data

Nigerian Spinners and Dyers

TABLE 6: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria

S/N	ITEMS	SA (5)	A (4)	UND (3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	11 (55)	36 (144)	0	0	0	48 (199)	4.15
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	3 (15)	43 (172)	1 (3)	0	0	48 (190)	3.96
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	1 (5)	45 (180)	0	0	0	48 (185)	3.85
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	2 (10)	44 (176)	0	0	0	48 (186)	3.88
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	4 (20)	41 (164)	1 (3)	1 (2)	0	48 (189)	3.94
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	2 (10)	41 (164)	3 (9)	1 (2)	0	48 (185)	3.85
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	1 (5)	43 (172)	2 (6)	1 (2)	0	48 (185)	3.85
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	3 (15)	43 (172)	1 (3)	0	0	48 (190)	3.96
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	2 (10)	43 (172)	1 (3)	0	1 (1)	48 (186)	3.88
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	1 (5)	43 (172)	2 (6)	1 (2)	0	48 (185)	3.85
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	0	42 (168)	3 (9)	2 (4)	0	48 (181)	3.77
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	11 (55)	26 (104)	2 (6)	7 (4)	0	48 (179)	3.73
	Total	41 (205)	490 (1960)	16 (48)	13 (26)	1 (1)	48 (2240)	46.67
	Grand Mean	17.08	163.33	4	2.17	0.08	186.67	3.89

Source: Computations from survey data

Nigerian Spinners and Dyers

TABLE 6: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria

S/N	ITEMS	SA (5)	A (4)	UND (3)	D (2)	SD (1)	TOTAL	MEAN
	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	16 (80)	37 (148)	5 (15)	0	0	58 (243)	4.19
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	17 (85)	37 (148)	4 (12)	0	0	58 (245)	4.22
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	16 (80)	34 (136)	6 (18)	1 (2)	0	58 (236)	4.07
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	16 (80)	37 (148)	4 (12)	1 (2)	0	58 (242)	4.17
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	14 (70)	37 (148)	4 (12)	3 (6)	1 (1)	58 (237)	4.07
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	15 (75)	33 (132)	7 (21)	3 (6)	0	58 (234)	4.03
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	10 (50)	36 (144)	9 (27)	2 (4)	1 (1)	58 (226)	3.90
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	9 (45)	39 (156)	8 (24)	2 (4)	0	58 (229)	3.95
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	8 (40)	35 (140)	8 (24)	4 (8)	1 (1)	58 (213)	3.67
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	14 (70)	32 (128)	7 (21)	2 (4)	3 (3)	58 (226)	3.90
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	13 (65)	32 (128)	9 (27)	2 (4)	1 (1)	58 (225)	3.88
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	14 (70)	39 (156)	4 (12)	1 (2)	0	58 (240)	4.14
	Total	162 (810)	428 (1712)	75 (225)	21 (42)	7 (7)	58 (2796)	48.19
	Grand Mean	67.5	142.67	18.75	3.50	0.58	233.0	4.02

Source: Computations from survey data

Terytex Nigeria Limited

TABLE 7: Mean Summary of Activity Based Costing (ABC) and Its Contribution to Efficiency and Survival of Textile Firms in Nigeria Responses n=42

S/N	ITEMS	SA (5)	A(4)	UND(3)	D (2)	SD (1)	TOTAL	MEAN
1.	Focusing and managing the firm on the basis of its activities has helped the organization in attaining efficiency.	8 (40)	28 (112)	0	5 (10)	0	42 (162)	3.86
2.	Identification and classification of activities into value added and non-value added has assisted the firm (management) to be efficient in operation.	5 (25)	30 (120)	3 (9)	0	0	42 (154)	3.67
3.	Prioritizing the non-value added activities for elimination is key in efficiency operation of the firm	6 (30)	27 (108)	0	7 (14)	1 (1)	42 (153)	3.64
4.	Analyzing costs of operation by activity provides management with information on costs of an activity and how to perform the activity efficiently.	7 (35)	31 (124)	0	4 (8)	0	42 (167)	3.98
5.	Constant comparison of costs and output quality from activities of the firm has improved output quality and efficiency of the firm.	5 (25)	28 (112)	1 (3)	5 (10)	1 (1)	42 (151)	3.60
6.	As a result of improved output the competitive position of the firm in the market place indicating efficiency.	9 (45)	30 (120)	1 (3)	1 (2)	0	42 (170)	4.05
7.	Adding value to the final product through integration of activity is strategic goal of the firm at lower operational cost.	4 (20)	26 (104)	4 (12)	6 (12)	0	42 (148)	3.52
8.	As a result of improved efficiency the quality of the output of the firm has as well improved.	8 (40)	26 (104)	4 (12)	2 (4)	1 (1)	42 (161)	3.83
9.	Understanding the true cost of an activity and performing such activity at reduced cost with improved outputs is key for efficient operation.	13 (65)	18 (72)	10 (30)	1 (2)	0	42 (169)	4.02
10.	By using the ABC the firm is now better suited to rely on cost figure for efficient operation as parts of the firm's strategic planning.	6 (30)	22 (88)	9 (21)	3 (6)	2 (2)	42 (147)	3.50
11.	While value added activity promote efficiency, non-value added activities inhibit increased efficiency	6 (30)	14 (56)	13 (39)	7 (14)	0	42 (139)	3.31
12.	Implementation of ABC as a cost reduction techniques is a must for all manufacturing firms particulars textile industry of Nigeria for attainment of efficiency.	5 (25)	24 (96)	10 (30)	2 (4)	1 (1)	42 (156)	3.71
	Total	82 (410)	304 (1216)	53 (159)	43 (86)	7 (7)	42 (1878)	44.69
	Grand Mean	34.172	101.3	13.25	7.17	0.58	156.5	3.72

Source: Computations from survey data

Table 8: Grand mean score of the predictor variables for the firms

	FS	ABC
African Textile Manufacturers	61	3.91
Tofa Textile Limited	51	3.71
Funtua Textiles Limited	62	4.03
Adhama Textile Limited	53	3.92
Angel Spinners & Dyers	48	3.89
Nigerian Spinners & Dyers	58	4.02
Terytex Textile Limited	42	3.72
TOTAL	**375**	**27.2**

Source:*Author's Computation*

Regression analysis

Table 9: Mean, Variance and standard deviation for Dependent and Independent Variables

	FS	ABC
Mean	53.57	3.886
Variance	52.95	0.0165
Standard Deviation	7.277	0.128

Source:*Computation using SPSS*

Table 10: Analysis of Variance (ANOVA)

Source of Variation	Df	SS	MS	F-test-value	Pr (>f)
ABC	1	188.31	188.31	7.2764	0.0429
Residual	5	129.40	25.88	-	-

Source: *Computation using SSPS*

ABC has significant impact at 0.05 level of significance.

Table 11: Summary of simple Regression Model

Source of Variation	Estimate	Std. Error	E-Value	Z-test Pr (>/t/)
Intercept	-115.92	62.86	-1.844	0.1245
ABC	43.62	16.17	2.97	0.0429
R^2	0.5927	Adjusted R2 = 0.5113		

Source: *Computation using SSPS*

The table above shows that ABC has significant impact at 0.05 level of significance.

Discussion of Results

The result of the descriptive analysis indicated that the predictor variable has significant impact on the dependent variable (FS). A mean index greater than 3.0 on a five (5) point likert scale implies significant impact, thus, accepting the alternative hypothesis of the study. This result corroborates with the submission of Gado (2013), Nasieku and Olayinka (2016) that implementation of accounting based techniques such as ABC has impacted significantly on the efficiency of manufacturing firms in developing nations of Africa.

Similarly, the empirical results of ANOVA and regression analysis indicated that ABC has significant impact on FS at 0.05 level of significance. The value of 0.0429 on the ANOVA table implies significant impact at 0.05 level of significance. Also, the regression result indicating the same value, show significant impact of the two explanatory variables on the dependent variable.

The regression analysis further revealed a coefficient determinant (R^2) value of 0.5927 and adjusted R^2 value of 0.5113. This implies that about 60% of the variation in the rate of FS is explained by the value of predictor variable considering that the maximum value of R^2 stands at 1.00 or 100 percent.

The model of the study represented as -115.92+43.62 ABC has satisfied the apriori expectation of B, >0, it implies that the model is valid. The validity of the model is further confirmed with the coefficient of determination value of R^2 and Adjusted R^2above 50% impliesthatthe predictor variable has a high ability to predict the likely future changes in the dependent variable thus implying significant impact of the predictor variable on the dependent variable.

Conclusion

The notable fit attained by the textile firms operating in Nigeria in terms of growth and employment generation in the 70s up to late 90s was largely attributed to quality output and efficiency in the sector. Unfortunately, the declination leading to many of the firms shutting down operations for inability to survive global competition was as a result of inefficiency in the manufacturing processes of the firms.

The study has established from the descriptive and empirical analysis of consensus opinion of staff of firms operating in Nigerian economy that implementation of accounting based cost

reduction technique has significant impact on the efficiency of the firms for survival.

Recommendation

From the findings based on the descriptive and empirical analysis, the study recommends continual implementation of these accounting based cost reduction techniques for continued efficiency of the existing firms as a clue for those firms that have temporarily closed down when they eventually start operation.

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