



## ACTIVITY COST MANAGEMENT AND ITS EFFECT ON ENTERPRISE PRODUCTIVITY

 **John Nkeobuna  
Nnah Ugoani**

Department of Management Sciences College of Management and Social  
Sciences, Rhema University, Nigeria  
Email: [drjohnugoani@yahoo.com](mailto:drjohnugoani@yahoo.com) Tel: +2348036066338



### ABSTRACT

#### Article History

Received: 28 March 2019

Revised: 6 May 2019

Accepted: 19 June 2019

Published: 22 August 2019

#### Keywords

Activity cost management  
Efficiency  
Ratio analysis  
Internal control  
Internal accountability  
Profitability  
Enterprise resource planning  
Management accounting.

#### JEL Classification:

M10; M12.

This study investigated the relationship between activity cost management and its effect on enterprise productivity using the exploratory research design. It focused on critical factors that lead to cost-effectiveness. A sample of 113 respondents participated in the study, and data collected from secondary and primary sources were analyzed through descriptive and regression statistical techniques. The result showed that activity cost management has significant positive effect on enterprise productivity. The new result is important because an enterprise is effective when it attains its goals, but productive only when such goals are achieved efficiently. Through the exploration and result, the study clearly highlighted that factors such as activity-based cost management, cost-benefit-analysis, internal control, ratio analysis, zero-base budgeting, internal accountability, and transparency, as well as cost leadership form the basis for enterprise productivity. An effective board of directors is imperative in any enterprise to provide necessary cost leadership for cost-effectiveness and enterprise productivity. The study was limited by insufficient current academic literature, therefore, further study could examine the relationship between activity cost management and enterprise failure. Based on the result, it was recommended that activity cost management practices must be intensified in public enterprises as a measure to reduce the heap of fraud prevalent in such enterprises.

**Contribution/Originality:** This study is one of the very few recent studies that have investigated the relationship between activity cost management and enterprise productivity using descriptive and regression statistical techniques to achieve the desired result. The paper's primary contribution is finding that there is significant association between activity cost management and enterprise productivity.

### 1. INTRODUCTION

Cost relates to the total value of enterprise resources used up in the conception, design, production, and marketing of a product, service or in discharging a function, responsibility or activity. It is a multiplication function of many factors, which must be understood and operationalized. In terms of decision making to optimize returns, cost should also include the value of benefits foregone in providing the service or product, or what economists call *opportunity cost*. Cost management is essential for enterprise success because among the most important objectives of any company is to maximize its profit. Also, an important goal of an enterprise is its own survival and to this extent it strives to minimize cost, hence the purpose of good management is the efficient application of resources so as to maximize profit and wealth for the shareholders (Uwazie, 2007). This becomes imperative because among the elements that give top management serious concerns are bad profit, low productivity and high cost. However, when

cost is low, profitability and productivity high the top management approach becomes to allow managers all the latitude in the world to manage their units, while top management's involvement becomes very limited (Hill and Jones, 1995). Cost management comprises of all those actions taken by management to reduce expenditure cost without necessarily impairing efficiency and adversely affecting customer satisfaction. The focus in activity cost management is on the elimination of wastes, non-value adding activities, effective pricing and strategic improvement in efficiency. Effective cost management requires a good understanding of the drivers of cost to be able to control or manage cost successfully. It must also be understood that cost reduction is different from cost cutting, because cost cutting is often arbitrary and can lead to longer term cost increases if it is not controlled. In its broadest sense, cost management relates to the fundamental management principle which emphasizes the maximization of revenue in-flow and the minimization of its outflow or expenses. Many organizations try to improve their bottom-line by increasing productivity. While many are succeeding, others are yet to find their feet, for many reasons including the problems of weak cost management, leading to wastages that result to low profitability and productivity. According to Abolo (1999) many factors affect how people view and define productivity. Among these include: perception, knowledge, and experience which, influence how productivity is defined, measured and improved. He asserts that for example, people in areas such as economics, engineering, industrial or organizational psychology, and accounting interpret productivity in different ways. Each area or discipline has its own guidelines and perceptions of how humans, organizations, and machines function in various environments. However, most definitions of productivity include: profitability, efficiency, effectiveness, value-addition, quality, innovation, and the quality of work. On the basis of the accounting perspective, the worth of human resources in terms of productivity is measured from two perspectives. Overhead Value Analysis (OVA) and Human Resource Accounting (HRA). As measures of activity cost management and productivity improvement, application of OVA includes investigating and reducing overhead, improving non-overhead activities, and enhancing overall productivity. On the other hand, HRA refers to the value of the productive capacity of a company's human resources and the volume of its customer goodwill (Abolo, 1998). From the economics perspective, Tuttle (1983) relates productivity primarily to distribution, and use of income, wealth, and commodities, based on the efficiency theory. At the same time, based on the engineering perception, Smith (1990) recognizes productivity as a situation where output meets quality standards, output is produced before the need for the product is passed, and output is consistent with the goals of the organization, and that the ratio of useful work and energy should not exceed 1. Harmonizing the imperatives of activity cost management and enterprise productivity would mean to easily accept the definition of Ranft (1978) that productivity means the ratio of valuable output to input, that is, the efficiency and effectiveness with which resources: personnel, machines, materials, facilities, capital, time, are utilized to produce a valuable output. Three business strategies that help to enhance activity cost management and enterprise productivity include: overall cost leadership strategy, that aim at gaining competitive advantage through lower cost. Others are financial considerations and budgetary constraints which play critical role in shaping good management. For example, cost leadership requires aggressive construction of efficient plant facilities which requires sustained capital investment, intense supervision of labour, visioning, pursuit of cost reduction, tight control of distribution cost and overhead. Enterprises that pursue cost leadership strategy survive the wind of failure, and they often emphasize structured tasks and responsibilities, provide for easy ways of doing business and the need to predict cost with minimal margin of error (Drucker, 2009; DuBrin, 2012). Gomez-Mejia *et al.* (2005) state that the business strategy that fits a cost management process would emphasize efficient, low-cost production, adherence to rational, highly structured procedures, so as to minimize uncertainty and waste. According to them, effective cost management strategy would also include good human resource management strategy involving spelling out the work that each employee needs to do, job-specific training, hiring employees with the necessary qualifications and skills, paying employees on the basis of job held, and relying on performance appraisals as a control tool to weed out low performers or dead enders (Armstrong, 2002; Arslan and Staub, 2013).

### 1.1. Research Problem

Many enterprises suffer low productivity because of poor management that lead to huge overhead and the resultant inability to take on new projects or products. For example, many banks failed in the last decades due to high operating cost in excess of revenue. This phenomenon has continued to send organizations to early liquidation. Without good cost management organizations face the risk that operating expenses may exceed revenues such that they are unable to survive on the long-run and ultimately may be faced with failure. Many times, operating expenses may escalate due to improper or inadequate operating procedures, inadequate internal controls, audits, checks and balances, poor culture of accountability and internal transparency, frauds and abuse of discretionary expenditure processes and limits, ambiguous lines of authority and responsibility. The need to meet organizational targets in terms of efficiency, profitability and productivity makes it necessary for the budget process to ensure that the organization clarifies roles and responsibilities of members so that the management's involvement in the day-to-day affairs will be limited thereby reducing operating cost on one hand, and on the other hand promoting an excellent example of management by exception in practice. In this regard, proper identification of cost drivers becomes beneficial to the extent to which the product or service loses its relationship with the overhead cost (Reynolds and Poll, 2015). Some people often forget that to manage cost effectively there must be a basis of comparison. According to Lucey (2001) the process of comparing actual results with planned or budgeted results and reporting upon variations, which is the principle of budgetary control, sets a cost management discipline which helps to accomplish the plans within agreed expenditure limits and the achievement of better productivity. He asserts that in most practical circumstances, budgets would appear to serve as both plans and controls, and the purpose of effective cost management cannot be over-emphasized because while planning is concerned with internal resource allocation to achieve certain objectives, control is concerned with the task of coordinating and using the allocated resource to achieve predetermined levels of efficiency, profitability and productivity (Adams *et al.*, 2010; Al-Halabi, 2013a;2013b).

### 1.2. Research Objective

The study was designed to investigate the relationship between activity cost management and enterprise productivity.

### 1.3. Research Significance

Many enterprises around the world today are facing challenges of survival and sustainability due to escalating operating cost in excess of revenue. And weak budget documents and information continues to impair effective management decision making that would otherwise result to cost effectiveness and high productivity. Despite the numerosity of enterprise failures in recent years, the author is not aware of many reports seeking to address the issues of activity cost management and enterprise productivity. This is a wide gap which this study cannot fill but will to some degree draw attention to the basic fact that clear and understandable budget information, internal transparency, internal control, internal audit, good corporate governance structure and organizational structure are necessary for good activity cost management and productivity in organizations. In addition to traditional cost control mechanisms like: cost accounting, management accounting, budgeting, it is important to stress that other techniques like ratio analysis, modern internal control, cost-benefit-analysis (CBA) are also critical to enhance effective-cost-management. Although the study may not fill the research gap if it helps in directing attention to them, it has achieved a degree of significance (Greiner *et al.*, 2013; Dorgham *et al.*, 2014).

### 1.4. Research Questions

1. Does activity cost management lead to cost efficiency?
2. Is cost-benefit-analysis a tool for enterprise productivity?

3. Is internal control required to control production cost?
4. Does ratio analysis help in management effectiveness?
5. Is it true that zero base budgeting enhances organizational effectiveness and productivity?

1.5. Hypothesis

To achieve the objective of the study, the following hypothesis was formulated and tested at 0.01 level of significance.

*Ho: There is no relationship between activity cost management and enterprise productivity.*

*Hi: There is a relationship between activity cost management and enterprise productivity.*

1.6. Conceptual Framework

A conceptual framework or the structure of the study shows the relationships between the independent and dependent variables and their hypothesized interrelationships. It is often stated in a schematic model. Models are increasingly used in business and management research to clarify issues that would otherwise be buried in an excess of words (Cleary, 1992; Meredith, 1993). The model of the study was predicted on the concept, context and consequence of the study. The 3Cs approach supports the contextualist theory that it is necessary to have a model with perspectives on human behavior in order to operationalize an analysis (Pettigrew, 1987; Guest et al., 1996).

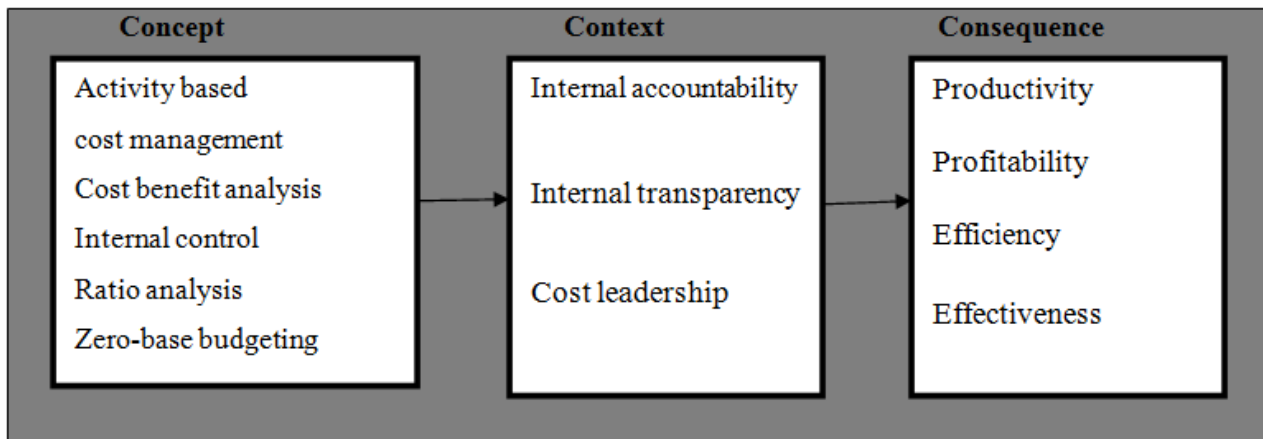


Figure-1. Operational model of activity cost management and enterprise productivity.

Source: Author designed (2019).

As shown in Figure 1, and in modern management activity based cost management focuses on activities for cost determination and management. Cost-benefit-analysis involves comparing benefits to be derived from an activity with its cost to establish its necessity. It is both a decision-making device and cost management mechanism. Modern internal control is understood more as a process designed to provide reasonable assurance regarding the achievement of organizational objectives in effectiveness and efficiency of operations, reliability of financial cost, reporting and compliance with statutes and policies so as to enhance internal accountability and transparency. Ratios are essential ingredients in cost management. A ratio can be defined as the relationship that exists between two figures. For example, profitability ratio measures the profit earned over the period and capital employed at the end of the year. This serves as a measure of management effectiveness, efficiency and productivity. Despite the benefits of cost and management accounting in cost control, zero base budgeting (ZBB) now provides an important element in modern management. According to Monwuba (1995a) ZBB originated from the USA where it was developed in 1970 by Pylur. The method fascinated Mr. Jimmy Carter, then Governor of the State of Georgia, who introduced it as a means of controlling state expenditure, internal transparency for making ethical decisions and promoting cost leadership necessary for good public management and productivity. Internal transparency of fiscal

information ensures that information is recorded and reported in a timely manner and that it is available for decision-making for effective cost management and productivity (Schinckus, 2010).

## 2. LITERATURE REVIEW

Productivity management seeks to optimize output within the context of the business plan. By reducing expense growth, ensuring that revenue exceeds expenditure, and increasing productivity, top management can show an excellent example of effective activity cost management. Organizations strive to provide goods and services in a manner that reduces cost to the least minimum without compromising standards, rules and regulations and customer choices. For example, standards must be maintained and control exercised to satisfy the customer in price, quality, quantity and delivery time to enhance enterprise productivity. Quality control as a cost management measure recognizes that a high quality product is not always the best product, even though it may be very costly, therefore, quality control is more concerned with economy in the use of the enterprise's resources in the provision of quality goods and services at the best cost. This is imperative because it is the objective of organizations to provide goods or services with maximum efficiency and at minimum cost (Roach, 1998; Hill, 2000). To ensure effective cost management and improved productivity, organizations whether for profit or not-for-profit can study and measure the use of its resources and improve its productivity by the application of different cost management techniques including work study. Work study is a technique whose purpose is to increase productivity by making better use of an organization's resources. Even though everybody in an organization is responsible for increasing productivity, the main responsibility falls on the top management who must ensure good cost management at all levels of the organization. To increase profitability top management must recognize the efficacy of work study as a direct means of raising productivity. It creates for the investor greater efficiency which results in increased profits. The work study approach is a means of raising enterprise productivity with little or no capital expenditure. Studies by earlier scholars suggest that work study is perhaps the most accurate means yet evolved in setting standards of performance on which effective planning and control depends. A comprehensive work study provides continuous savings, and it is recognized as a universal tool because it is applicable in all types of enterprises, whether large or small. In Enterprise Resource Planning (ERP) work study provides the most penetration tool and basis of innovative action over issues of cost management and productivity (Shtub, 1999). Equally important is the fact that work study, does not recognize the ideas of the classical economists that productivity relates only to such activities as manufacturing or farming, rather it recognizes that other activities like the work of a teacher, or a musician are also productive activities because the output or outcome of any changes takes time to be realized. In the race for cost management and productivity improvement measures like Activity-Based Cost Management, Cost-Benefit-Analysis, Internal Control, Ratio Analysis, Zero-Base Budgeting among other techniques are being increasingly used by organizations. However, Abolo (1999) insists that all measures towards productivity measurement and improvement must focus on the elimination of inefficient methods or systems of work, poor management, poor planning, poor budgeting and control procedures, and excessive waste. For effective cost management and enhancement of enterprise productivity, he also recommends regular comparison of actual result with established standards and trends as well as comparison or benchmarking with other organizations in the same industry (Covin *et al.*, 1997). Al-Halabi and Shaqqour (2018) state that enterprise productivity cannot be fully achieved without the interaction between activity-based costing (ABC) and activity-based management (ABM). They explain that while ABC is used to identify the cost of resources ABM covers activities such as production, purchasing, accounting, banking and finance, warehousing, marketing and supplies, and risk management that lead to overall enterprise productivity. Activity cost management (ACM) in this context emphasizes total cost reduction by using more effective management tools in trying to achieve the integration between ABC and ABM towards enterprise efficiency and productivity. It is suggested that the major idea in linking ABC and ABM is to overcome the management challenge to find alternative approaches to improve performance methods, reduce cost, and to face new

competitive developments ending with increasing the wealth of shareholders. To a large extent ACM involves both internal and external benchmarking. Internal benchmarking ensures that more efficient units within the enterprise are used as basis for directing the operations of units perceived to be less efficient. On the other hand, external benchmarking focuses on peers and other enterprises to ensure that cost of operations are within the average industry levels (Chi *et al.*, 2011; Judeh and Nimer, 2011; Khan, 2011; Gill and Obradovich, 2012; Avino, 2013).

### *2.1. Activity-Based Cost Management*

ABM seeks to understand structural cost drivers which are based on the firm's structure, experience, technology for doing business and its complexity. Structural cost drivers are not monotonically scaled with performance. According to Greenwood and Reeve (2002) ABM focuses on continuous improvement. To reduce cost and enhance productivity top management can direct units, branches, and departments (UBDs) to embark on cost reduction strategies without in any way compromising standards, laws, rules and regulations, depending on the characteristics of each of them. This is important because it will not be strategic to assume that each unit or function is of the same importance with same characteristics. Top management can more importantly focus on the few activities that account for the highest proportion of income based on the 80/20 ratio or the 90/10 rule, popularly known as the Pareto Phenomenon. This means that all things are not equal, some things or activities (a few) will be very important for achieving an objective or solving a problem, and other things (many) will not. The implication of this is that management should examine each situation, searching for the few factors that will have the greatest impact, and giving them the highest priority. This again means that less important activities will be reduced and automatically, by so doing reducing their cost implications that do not have any positive contribution on productivity. In terms of effective cost management this could be the most important and pervasive concept that can be applied at all levels of management and every aspect of management decision making with the aim of enhancing productivity. An important factor that can have profound influence on cost management and enterprise productivity is leadership. Generally, leadership involves an ability to determine the most appropriate course of action and getting others to follow that course of action with minimal recourse to formal authority. Good leadership results to operational effectiveness and efficiency (Muo, 1999). Effective cost management would involve good risk management to minimize the risk of loss of valuable items. Risks are inherent in all enterprise activities and management makes effort to manage them. Risks relate to the occurrence of events that can have undesirable consequences, such as delays, increased overhead cost, and an inability to meet obligations. Good risk management entails identifying as many potential risks as possible, analyzing and assessing these risks, working to minimize the probability of their occurrence and establishing contingency plans for dealing with any that may occur. Once risks have been identified, each risk must be evaluated to determine its probability of occurrence and the potential consequences if it does occur. As a cost management strategy, risks may be reduced in a number of forms, but much depends on the nature and scope of the enterprise. Risks can be transferred through outsourcing a particular aspect of activity, or by way of an insurance cover. Also, risk sharing is a possibility in risk and cost management. This involves partnering, which can spread risks among partners. This approach may also reduce risk by enlarging the sphere of sources of ideas thereby reducing the risk and cost (Antos, 1992; Steiner, 2000; Stevenson, 2002; Drury, 2006; Gorzeń-Mitka and Okręglicka, 2014).

### *2.2. Cost-Benefit-Benefit Analysis*

Management employs different techniques to analyze different situations to make good decisions for cost effectiveness and ultimate enterprise profitability. Management would like to know why some activities are carried out successfully in one area but become unsuccessful or unprofitable in another. It then considers whether an investment in new machinery or equipment means higher productivity or greater loss. In financial management for example, an investment can be defined as the commitment of resources for the acquisition of an asset which in turn



is expected to bring a stream of revenue inflows in the future. Since cost is the sacrifice or consideration to obtain an asset, management is often guided by the product of a cost-benefit-analysis (CBA) to improve the quality of decision-making and cost effectiveness. CBA refers to the administrative or managerial tool that is critical for efficient cost management that considers and assesses the cost-benefit of a particular programme, project or service in terms of its financial and opportunity costs. Thus, CBA is the process of comparing different methods of attaining an end or alternative course of action and the profits, returns and benefits, in relation to its costs and sacrifices. In this context therefore, CBA refers to the process of calculating the net profit of administrative actions so as to establish equilibrium between cost and benefit, because it is important that an equilibrium position should be maintained between cost and benefit. CBA is often employed for its simplicity in measuring potential inflow and profitability, because management and cost accounting methods of assessment and presentation may differ dramatically from the specifics and requirements of management. According to [Ogbo \(2010\)](#) the reasons why firms are involved in cost-benefit- analysis is often related to issues such as legislation, incentives, profit, corporate social responsibility, performance, and productivity among others. It helps management to have an insight into the costs or benefits in existence and also raises issues that are closely linked to decision-making and economics. He asserts that CBA and the cost-effectiveness-analysis (CEA) are used to compare input and output. Basically, CBA is an important management tool that makes economic consequences visible, which may in turn contribute to improvement in enterprise productivity. As an efficiency indicator it allows an enterprise to improve itself or to compare itself with other organizations in the same sector, or several sectors based on the type of productive activity. It also seeks to investigate benefit that will accrue on any single capital outlay. This is why the term return on investment (ROI) is also applicable. For enterprise productivity ROI and CBA should be an integral parameter in general management. [Zangemeister \(2005\)](#) opines that a poor CBA can rarely achieve good margins ([Drury, 2000](#); [Abdel-Kader and Wadongo, 2011](#); [Alleyne and Weekes-Marshall, 2011](#); [Cheng et al., 2014](#)).

### *2.3. Internal Control*

Internal control helps to detect and reduce risks and the cost to the organization. Internal control ensures compliance with regulations, and plans to promote efficient cost management and enterprise productivity. According to [McNaughton \(1997\)](#) internal controls represent the principal safeguard against potential risks, errors, losses or irregularities. They are necessary to the soundness, safety, effectiveness, productivity and legality of the operations of the enterprise. She emphasizes that internal control comprises a plan of the organization and all of the co-ordinated methods and measures adopted within a business to: safeguard its assets, check the accuracy and reliability of its accounting data, promote operational efficiency, and encourage adherence to prescribed managerial ethics, practices and policies. This view is that any system of internal controls has multiple objectives. For example, financial control objectives aim to maximize the achievement of financial goals by minimizing risks and costs to facilitate efficient performance within established operating policies, and to ensure the reliability, adequacy and timeliness of both financial and accounting information needed for management decision-making ([Ugoani, 2018a](#)). Good internal control aims to minimize operating expenses, reveal hidden gains and losses to provide the best single ratio for evaluating the performance of management. [Dorotinsky and Pradhan \(2007\)](#) suggest that modern internal control is understood more as a process designed to provide reasonable assurance regarding the achievement of organizational objectives in effectiveness, reliability of financial reporting and compliance with statutes and policies. These, including internal audit are elements that facilitate organizational performance, profitability and productivity. While internal control and internal audit are related, but they are not exactly the same. The former relates to the system of control established by management in order to carry the business of the enterprise in an orderly and efficient manner, the later relates to an independent appraisal activity within the organization for the review of operations as a service to management. It is a management control which functions by measuring and evaluating the effectiveness of the other controls ([Monwuba, 1995b](#)). Internal audit is responsible

for reviewing the system of internal controls to determine whether they are being adhered to. Fundamentally, internal audit is responsible for safeguarding the organization's assets, its financial integrity, thus its social capital and reputation (Arnaboldi and Lapsley, 2003; Baird *et al.*, 2004; Melese *et al.*, 2004; Shiozawa, 2006; Navaratne and Kothalawala, 2012).

#### 2.4. Ratio Analysis

Ratios are useful in activity cost management because they help to compare the levels of income and expense with what is actual, standard and also with what are obtainable with peers in the same industry. The best way to bring out competitive performance is to reduce the magnitude of numbers down to ratios that allow direct comparison between peer institutions and the underlying level of performance and health of the enterprise. A ratio can be defined as the relationship that exists between two figures. As management techniques, ratios are often used in the interpretation of financial statements and they provide the means by which various items in the final accounts are compared to other items to enhance the quality of cost management. Ratio analysis is a major tool used in the appraisal of an enterprise to determine its viability. It involves reducing the magnitude of information on the financial statements by eliminating, reclassifying, combining or rearranging them in statistical relations with each other. This helps to reveal variances, in terms of high and low levels of income and expenses and therefore places management in a position to exercise good judgment and take appropriate decisions necessary for effective cost management (Ugoani, 2018b). Ratios are indispensable in identifying the problem areas of a company. They make important impact in evaluating the performance of an investment and generally provide standard of comparison at a point in time and allow management to take corrective measures where necessary for cost effectiveness and productivity of the enterprise. Understanding financial statements is crucial for sound management decision-making and helps the board of directors (BODs) to keep shareholders and other significant stakeholders well informed of the major trends in the organization. Ratio analysis is frequently used in management accounting to establish meaningful relationships between the components of financial statements, since the primary objective of ratio is to point out areas that require further investigation and necessary improvement (Hermanson *et al.*, 1992). To a high degree, management accounting provides necessary information to assist management in decision-making, therefore, it can be considered as an integral part of the activity cost management process (Lere, 1991; Harrison, 1995; Lasher, 1997; Hilton, 1999). According to Hossan and Habib (2010) ratios are used to evaluate enterprise liquidity, asset management, profitability, market value, and finally to measure the best performance between two companies (Whittington and Delany, 2013).

#### 2.5. Zero Base Budgeting

Basically a budget is a plan quantified in monetary terms, prepared and approved prior to a defined period of time for the achievement of a common objective. It is a system through which all the financial and cost affairs of the organization are regulated. It is through the budget that top management forecasts and plans for its revenue and expenditure for any financial year. Budgeting is critical for cost effectiveness to enable management carry out its main functions of planning, organizing, directing and controlling efficiently. Zero base budgeting (ZBB) implies the allocation of resources from a hypothetical zero base. It can be described as an operating, planning and budgeting process which requires each manager to justify his or her entire budget request in detail from a scratch and shifts the burden of proof to such manager to justify why he or she should spend any more at all. This suggests that each money to be spent must be justified. Without reasonable justification no money will be approved, thus, there may be no better activity cost management approach than the ZBB process. To this extent, ZBB may be viewed as the process of *throwing everything out and starting all over again from zero*. In any organization, management is concerned with getting things done in an efficient manner. The objective of good management is to increase productivity. This important objective can be better achieved through ZBB. As an activity cost management mechanism ZBB implies



the analysis of activity, efficiency evaluation and the prioritization of activities with the aim of reducing cost. According to [Nwizu \(2002\)](#) this approach requires that all activities should be identified and ranked in order of importance to determine the ones that qualify for fund allocation and those not qualified and therefore to be modified, or combined with other activities. Otherwise, if they are not useful, or will increase cost without increasing productivity they will be discarded. In bold attempts for good management of resource wealth it must be understood that developing satisfactory budgeting techniques like ZBB is imperative to effectively identify, forecast, and measure the cost of many administrative activities so as to reduce cost magnitude and to enhance productivity. This is important because productivity depends upon many factors including managerial efficiency. The critical management and administrative skills of planning, organizing, directing, controlling, budgeting, communicating, calculating, problem-solving, decision-making and flexibility are fundamental to productivity at all levels of the organizational hierarchy. Through effective ZBB organizational leaders show commitment towards cost reduction. A strong leader is someone who demonstrates commitment to his particular vision and this often involves leadership by example. [Hill and Jones \(1995\)](#) report on Ken Iverson who turned in twenty years of profitable performance in an industry where most companies had lost money by relentlessly focusing on cost minimization, which starts from himself and who was proud of being one of the *lowest-paid CEOs in the Fortune 500* league at the time. This approach is great because most profit-seeking organizations aim at maximizing shareholder wealth. A company can best maximize shareholder returns by pursuing strategies that maximize its own return on investment (ROI) which is a good general indicator of enterprise efficiency. The more efficient an enterprise is, the better its future or sustainability prospects look to stakeholders and the greater is its ability and capacity to pay dividends. Furthermore, higher ROI leads to greater productivity and capital appreciation. Budgeting for the cost of activities and planning for revenue helps organizations to stay ahead of competition. Budgeting helps organizations to prepare and organize business transactions daily, weekly, monthly, quarterly, bi-annually and annually. With this they already know how much that will be received and how much to be spent ([Boyd, 2011](#); [Alagbe, 2018](#); [Ugoani, 2019a;2019b](#)). According to [Reynolds and Poll \(2015\)](#) other cost management tools such as activity-based budgeting (ABB) and ABM are closely linked to ABC. They insist that ABM is a ZBB method that uses ABC principles ([Swenson and Ansari, 2010](#); [Moorthy and Yacob, 2013](#)).

### 3. RESEARCH METHODOLOGY

#### 3.1. Research Design

The exploratory research design was used for the study. A combination of quantitative and qualitative techniques can be used in exploratory research ([Creswell, 2009](#)). This method is historical in nature and does not often require a large sample or a structured questionnaire. The strength of qualitative research technique lies in its capacity to provide proper insights, rich details and thick descriptions. Richness is provided by paying close attention to concept, context, and process ([Molina-Azorin and Cameron, 2010](#)).

#### 3.2. Data Sources

Data were collected from secondary and primary sources such as: books, journal articles, annual reports, government reports, newspapers, magazines, personal interviews, observations, among others. Secondary data are information collected previously for some other purpose other than the research project at hand, whereas primary data are information gathered and assembled specifically for the research objective at hand ([Aakar et al., 2004](#)). Each data collection method has advantages, and disadvantages. However, according to [Nelson and Quick \(2003\)](#) the best approach is using multiple method of collecting data because it offers the researcher a chance to cross-check the information obtained through the various methods ([Lata, 2014](#)).

### 3.3. Population, Sample and Size

The population composed of all the public companies listed on the floor of the Nigerian Stock Exchange (NSE). The sample was selected through the judgmental method, while the size was determined using the sample ratio concept (Obodoeze, 1996; Asika, 2004; Koerber and McMichael, 2008).

### 3.4. Study Area

The study was conducted in Southeast Nigeria comprised of five states out of the thirty six states in Nigeria. It is believed that the opinion of the people in the area is representative of the opinion of the people in Nigeria (Ezejelue *et al.*, 2008).

### 3.5. Decision Rule

The decision rule for the mean cut-off point for the analysis of responses was at 3 points. According to Nwankwo (2011) this method is appropriate to answer research questions.

### 3.6. Data Analysis

Data were analyzed through descriptive and regression statistical methods (Edmondson and McManus, 2007).

## 4. RESEARCH RESULT

Table-1. Profile of respondents (n=113).

S/N	Description	Category	Total	Percentage
1	Sex	a) Female	50	44.25
		b) Male	63	55.75
2	Education	a) Diplomas	35	30.97
		b) Degrees	50	44.25
		c) Others	28	24.78
3	Age	a) 18-30years	40	35.40
		b) 31-60years	55	48.67
		c) others	18	15.93
4	Experience	a) less than 10 years	45	39.82
		b) 11 - 30years	40	35.40
		c) Above 31 years	28	24.78
5	Income	a) Low	20	17.70
		b) Middle	70	61.95
		c) High	23	20.35

Source: Fieldwork (2019).

Table-2. Analysis of frequency and mean of responses to research questions.

S/N	Restatement of Research Questions	Scores					$\Sigma x$	$\bar{x}$	$\frac{\Sigma x}{n}$	Decision rule @ 3 points
		SA	A	N	D	SD				
		5	4	3	2	1				
1	Activity-based management leads to cost efficiency	50	40	5	5	13	448	113	3.96	Accepted
2	Cost benefit analysis is not a tool for enterprise productivity	10	30	15	8	50	281	113	2.49	Rejected
3	Internal control is necessary to control production costs	45	50	3	6	9	161	113	4.08	Accepted
4	Ratio analysis does not help in management effectiveness	15	10	2	16	70	223	113	1.97	Rejected
5	Zero-base budgeting enhances organizational effectiveness and productivity	55	40	3	5	10	470	113	4.16	Accepted

Source: Fieldwork (2019).

Table 1 was used to highlight the characteristics of the 113 participants in the study. Knowledgeable people were selected to enhance the credibility of the result.

Table 2 was used to analyze the responses to the research questions. According to Nwankwo (2011) this method is very appropriate to answer research questions.

4.1. Model Specification

Model specification is the expression of a relationship into precise mathematical form. According to Koutsoyannis (1977) economic theory does not indicate the functional form of any relationship. This means that economic theory does not state whether a relationship will be expressed in linear form, quadratic form or in a cubic form. On the strength of this, it was decided to specify the relationship between Enterprise Productivity and Activity Cost Management as:

$$ETP = b_0 + b_1 ACM + b_2 CBA + b_3 INC + b_4 ZBB + u$$

Where:

- ETP = Enterprise productivity.
- ACM = Activity cost management.
- CBA = Cost-benefit-analysis.
- INC = Internal control.
- ZBB = Zero base budgeting.
- b<sub>0</sub> = Common term.
- b<sub>1</sub>, b<sub>2</sub>, b<sub>3</sub>, b<sub>4</sub> = Coefficient attached to exploratory variable.
- t = Time period.
- u = Stochastic error term.

Table-3. Regression analysis.

Variables	Coefficient	Std. Error	t-Statistic	Prob.
ACM	-0.899543	0.391301	-2.29885	0.0387
CBA	0.105354	0.420305	0.250660	0.8060
ZBB	0.440319	0.349319	1.260506	0.2296
C	44.71526	39.06402	1.144666	0.2730
R-squared	0.430596	Mean dependent var	-11.44228	
Adj. R-squared	0.299195	S.D. dependent var	157.7014	
S.E. of regression	132.0183	Akaike info criterion	12.80608	
Sun squared resid	226574.8	Schwarz criterion	13.00213	
Log likelihood	-104.8517	F-statistic	3.276964	
Durbin-Watson Stat	2.197789	Prob (F-statistic)	0.055515	

Source: SPSS.

As in Table 3 regression analysis was used to establish the effect of activity cost management on enterprise productivity.

4.2. Discussion

Activity cost management is very important for enterprise productivity and for a meaningful work knowledgeable people participated in this study. Out of the 113 respondents 63 or 55.75 percent were male while the rest 44.25 percent were female, falling between 18 years and above. 45 or 39.82 percent of them had less than 10 years industrial work experience, 40 or 35.40 percent up to 30 years, while the rest 24.78 percent had over 30 years of industrial work experience. Also, 17.70 percent fell within the low-income level, 61.95 percent in the middle-income level, while 20.35 percent were within the high-income status. These characteristics placed them in good stead to contribute meaningfully to the potency of the study. The statistical analysis of the responses to the research questions in Table 2 showed that at 3.96 points the respondents agreed that activity cost management

leads to cost efficiency, and at 2.49 points they denied that CBA is not a tool for enterprise productivity. At 4.08 points, it was accepted that internal control is necessary to minimize production cost, and at 1.97 points it was not accepted that ratio analysis does not help in management effectiveness. The analysis confirmed at 4.16 points that zero-base budgeting is a veritable tool for organizational effectiveness and productivity. This supports the assessment of Lucey (2001) that budgetary control involves the establishment of budgets, relating the responsibilities of executives to the requirements of the policy and to compare standards with the aim of achieving the desired objectives. As shown in Table 3, in regression analysis, there is an important measure  $R^2$ , which measures the goodness-of-fit of the regression model. By this, it calculates the dependent variable accounted for by the independent variable(s). The possible values of  $R^2$  range from 0 to 1.00. The closer  $R^2$  is to 1.00, the greater the percentage of the explained variable. A high value of  $R^2$ , of about .80 or more, would indicate that the independent variable is a good predictor of values of the dependent variable of interest. A low value, of about .25 or less, would indicate a poor predictor, and a value between .25 and .80 would indicate a moderate predictor. Therefore, the  $R^2$  of this model proved a positive relationship between the variables of interest. The value of Durbin Watson is 2.198 that lies within the range between 1.5 and 2.5 and this means that there is no autocorrelation among the independent variables of the study. Therefore,  $H_0$  was rejected while  $H_1$  was accepted. This is the interest of the study. The result lends credence to the earlier findings of Baird (2007) that activity management practices enhance organizational efficiency. He insists that public sector organizations should adopt activity management practices as they promote increased transparency and efficiency in the conduct of government activities just as they are also relevant for private sector organizations (McGregor, 2010; Ytanyi *et al.*, 2012; Yu and Lee, 2012).

#### 4.3. Scope for Further Study

Further study could examine the relationship between activity cost management and enterprise failure as a measure to finding a solution to the problem.

#### 4.4. Recommendations

- i. Activity cost management practices must be intensified in government organizations to reduce the heap of fraud prevalent in such organizations.
- ii. CBA and production costing should form part of effective cost management necessary for enterprise productivity.
- iii. BODs of public liability companies must frequently exercise their oversight functions to ensure effective internal control to enhance enterprise efficiency and productivity.
- iv. Ratio analysis as an aid to management should be based on transparent information so as not to mislead the investing public.
- v. The budgeting process must be transparent to provide the necessary framework to compare and validate both projected and actual performance levels to promote motivation and enterprise productivity.

### 5. CONCLUSION

An organization is effective when it attains its goals, but productivity depends on achieving these goals efficiently. Among the elements that lead to organizational productivity would include efficient cost analysis, cost-benefit-analysis, internal control, ratio analysis and zero-base budgeting. For example, internal control helps to detect and reduce risks and their negative cost to the organization which then results to enterprise productivity. 113 respondents participated in the study conducted through the exploratory research design. The result of the study showed a positive correlation between ACM and ETP. This is the objective of the study.

**Funding:** This study received no specific financial support.

**Competing Interests:** The author declares that there are no conflicts of interests regarding the publication of this paper.

## REFERENCES

- Aakar, D.A., G.S. Day and V. Kumar, 2004. Marketing research. 8th Edn., Hoboken, N: John Wiley and Sons.
- Abdel-Kader, M.G. and B. Wadongo, 2011. Performance management in NGOs. *Review of Management Accounting Research*: 450-478.
- Abolo, E.M., 1998. Human resources accounting: Its role in strategic human resource management. *Monthly Business & Economic Report*. September, 1998, First Bank of Nigeria Plc, Lagos. pp: 1-7.
- Abolo, E.M., 1999. Productivity improvement programme: Logic or lottery. *Monthly Business & Economic Report*, First Bank of Nigeria Plc, Lagos. pp: 1-8.
- Adams, S.J., I.J. Pryor, D.E. Keller and E. Mary, 2010. Management accounting information. 4th Edn., USA: South-Western College Publishing.
- Al-Halabi, N., 2013a. The role of management control and accounting systems in increasing the efficiency of activities in manufacturing companies. *European Journal of Business and Management*, 5(13): 147 – 158.
- Al-Halabi, N., 2013b. The effect of applying balanced scorecards in increasing the operational efficiency of activities in manufacturing companies. *Journal of Innovative System Design and Engineering*, 7(7): 53 – 63.
- Al-Halabi, N.B. and O.F. Shaqqour, 2018. The effect of activity-based costing (ABC) on managing the efficiency of performance in Jordanian manufacturing corporations-an analytical study. *Accounting and Finance Research*, 7(1): 262 – 271. Available at: <https://doi.org/10.5430/afr.v7n1p262>.
- Alagbe, J., 2018. How to build great business in 2019. *Westafrica Businessnews*, 5(270): 17.
- Alleyne, P. and D. Weekes-Marshall, 2011. An exploratory study of management accounting practices in manufacturing companies in Barbados. *International Journal of Business and Social Sciences*, 9(2): 49-58.
- Antos, J., 1992. Activity-based management for service, not-for-profit, and governmental organizations. *Journal of Cost Management*, 6(2): 13-23.
- Armstrong, P., 2002. The cost of activity based management. *Accounting, Organizations and Society*, 27: 99-120.
- Arnaboldi, M. and I. Lapsley, 2003. Activity based costing, modernity and the transformation of local government: A field study. *Public Management Review*, 5(3): 345-375. Available at: <https://doi.org/10.1080/1471903032000146946>.
- Arslan, A. and S. Staub, 2013. Theory X and theory Y type leadership behavior and its impact on organizational performance: Small business owners in the Şishane lighting and Chandelier District. *Procedia-Social and Behavioral Sciences*, 75: 102-111. Available at: <https://doi.org/10.1016/j.sbspro.2013.04.012>.
- Asika, N., 2004. Research methodology: A practical approach. Lagos: Mukugamu & Brothers Enterprises.
- Avino, Z.B., 2013. Top management team diversity, quality decisions and organizational performance in the service industry. *Journal of Management Strategy*, 4(1): 113 – 123. Available at: <https://doi.org/10.5430/jms.v4n1p113>.
- Baird, K.M., 2007. Adoption of activity management practices in public sector organizations. *Accounting and Finance*, 47(4): 551- 569. Available at: <https://doi.org/10.1111/j.1467-629x.2007.00225.x>.
- Baird, K.M., G.L. Harrison and R.C. Reeve, 2004. Adoption of activity management practices: A note on the extent of adoption and the influence of organizational and cultural factors. *Management Accounting Research*, 15(4): 383-399. Available at: <https://doi.org/10.1016/j.mar.2004.07.002>.
- Boyd, D.P., 2011. Lessons from turnaround leaders. *Strategy & Leadership*, 39(3): 36-43. Available at: <https://doi.org/10.1108/10878571111128801>.
- Cheng, B., I. Ioannou and G. Serafeim, 2014. Corporate social responsibility and access to finance. *Strategic Management Journal*, 35(1): 1-23. Available at: <https://doi.org/10.1002/smj.2131>.
- Chi, W., L.L. Lisic and M. Pevzner, 2011. Is enhanced audit quality associated with greater real earnings management? *Accounting Horizons*, 25(2): 315-335. Available at: <https://doi.org/10.2308/acch-10025>.



- Cleary, R., 1992. Models as affective research tools in D. M. Cavanagh, and G. M. Rodwell (Eds), *Dialogues in Educational Research* Darwin, N. T. USA: McGraw-Hill Irwin, William Michael Press. pp: 261.
- Covin, J.G., D.P. Slevin and R.L. Schultz, 1997. Top management decision sharing and adherence to plans. *Journal of Business Research*, 40(1): 21-36. Available at: [https://doi.org/10.1016/s0148-2963\(96\)00207-x](https://doi.org/10.1016/s0148-2963(96)00207-x).
- Creswell, J., 2009. *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage Publications Inc.
- Dorgham, T., N. Al-Halabi and M. Shanikat, 2014. The effect of management control systems limiting fraudulent practices in manufacturing companies. *European Journal of Finance and Accounting*, 5(6): 1 – 14.
- Dorotinsky, W. and S. Pradhan, 2007. Exploring corruption in public financial management. In J. E Campos and S. Pradhan (Eds), *The Many Faces of Corruption. Tracking Vulnerabilities at the Sector Level*. Washington, D. C: The World Bank. pp: 257-294.
- Drucker, P.F., 2009. *The effective executive*. New York: Harper Collins.
- Drury, C., 2000. *Management and cost accounting*. 5th Edn., London: Thomson Learning. .
- Drury, C., 2006. *Management accounting for business*. 6th Edn., London, UK: Patrick Bond.
- DuBrin, A.J., 2012. *Leadership: Research findings, practice and skills*. Mason, OH: Cengage, South-Western.
- Edmondson, A.C. and S.E. McManus, 2007. Methodological fit in management field research. *Academy of Management Review*, 32(4): 1246-1264. Available at: <https://doi.org/10.5465/amr.2007.26586086>.
- Ezejelue, A., E.O. Ogwo and A. Nkamnebe, 2008. *Basic principles in managing research projects*. 2nd Edn., Port-Harcourt: Educational Books Ltd.
- Gill, A. and J.D. Obradovich, 2012. The effect of corporate management control, and accounting systems and financial leverage on the value of American firms. *International Research Journal of Finance and Economics*, Issue 91: 1 - 14.
- Gomez-Mejia, B.B. D. and R.L. Cardy, 2005. Porter's business unit strategies. In L. R., Gomez-Mejia B. D. Balkin, and R. L. Cardy (Eds), *Managing Human Resource*, 4th Edn., New Delhi: Prentice-Hill of India private Ltd. pp: 29-30.
- Gorzeń-Mitka, I. and M. Okręglicka, 2014. Improving decision making in complexity environment. *Procedia Economics and Finance*, 16: 402-409. Available at: [https://doi.org/10.1016/s2212-5671\(14\)00819-3](https://doi.org/10.1016/s2212-5671(14)00819-3).
- Greenwood, T.G. and J.M. Reeve, 2002. Activity-based cost management for continuous improvement: A process design framework. *Journal of Cost Management*, Winter: 22 – 40.
- Greiner, A., M. Kohlbeck and T. Smith, 2013. Do auditors perceive real earnings management as a business risk? Working paper. USA: Florida Atlantic University.
- Guest, D.E., N. Conway, R. Briner and M. Dickman, 1996. *The state of the psychological contract in employment: Issue in people management*. London: IPD.
- Harrison, F.E., 1995. *The managerial decision-making process*. 4th Edn., Boston: Houghton Mifflin Company.
- Hermanson, R.H., J.D. Edwards and M.W. Maher, 1992. *Accounting principles*. 5th Edn., Boston, MA: Richard D. Irwin, INC.
- Hill, C.W.L. and G.R. Jones, 1995. *Strategic management: An integrated approach*. 3rd Edn., Boston: Houghton Mifflin Company.
- Hill, T., 2000. *Manufacturing strategy: Text and cases*. 3rd Edn., New York: McGraw-Hill.
- Hilton, R.W., 1999. *Managerial accounting*. 4th Edn., USA: Irwin McGraw-Hill.
- Hossain, F. and M.A. Habib, 2010. Performance evaluation and ratio analysis of pharmaceutical company in Bangladesh. Master's Thesis in International Business 15 ECTS Department of Economics and Informatics, University West. Spring term 2010.
- Judeh, A.A.M.K. and K.U.M. Nimer, 2011. The extent of using management accounting approaches in Jordanian manufacturing, listed companies - a survey study. *Economic and Management Journal*, 1(37): 13 – 37.
- Khan, I.A., 2011. Target cost: The Japanese strategy for continuous improvement. *VSRD – IJBMR*, 1(3): 177-184.
- Koerber, A. and L. McMichael, 2008. Qualitative sampling methods: A primer for technical communicators. *Journal of Business and Technical Communication*, 22(4): 454-473. Available at: <https://doi.org/10.1177/1050651908320362>.
- Koutsoyannis, A., 1977. *Theory of econometrics*. Hampshire: Macmillan Education Ltd.

- Lasher, W.R., 1997. *Advanced financial accounting*. 5th Edn., London: Pitman Publishing Company.
- Lata, R.S., 2014. Non-performing loan and its impact on profitability of state owned commercial banks in Bangladesh: An empirical study. *Proceedings of 11th Asian Business Research Conference*, 26-27 December, 2014, BIAM Foundation Dhaka, Bangladesh.
- Lere, J.C., 1991. *Managerial accounting: A planning-operating-control framework*. New York: John Wiley and Sons.
- Lucey, T., 2001. *Management accounting*. 4th Edn., New York: ELST.
- McGregor, L., 2010. Improving the quality and space of decision-making. *Journal of Change Management*, 2: 344 – 356.
- McNaughton, D., 1997. Operating and financial control. In D. McNaughton (Ed), *Banking Institutions in Developing Markets? Building Strong management and Responding to Change*. Washington, D. C.: The World Bank, 1:150 – 154.
- Melese, F., J. Blandin and S. OKeefe, 2004. A new management model for government: Integrating activity based costing, the balanced scorecard, and total quality management with the planning, programming and budgeting system. *International Public Management Review*, 5(2): 103-131.
- Meredith, J., 1993. Theory building through conceptual methods. *International Journal of Operations & Production Management*, 13(5): 3-11. Available at: <https://doi.org/10.1108/01443579310028120>.
- Molina-Azorin, J. and R. Cameron, 2010. The application of mixed methods in organizational research: A literature review. *The Electronic Journal of Business Research Methods*, 8(2): 95-105.
- Monwuba, A.O., 1995a. *Auditing and investigations: 76 questions and answers*. Onitsha: Fortune Printing Ind. Ltd.
- Monwuba, A.O., 1995b. *Management accounting*. Enugu: IBS Press Nigeria.
- Moorthy, K. and P. Yacob, 2013. Green accounting: Cost measures. *Open Journal of Accounting*, 2(01): 4-7. Available at: <https://doi.org/10.4236/ojacct.2013.21002>.
- Muo, I.K., 1999. *The nature scope & challenges of management*. Lagos. Impressed Publishers.
- Navaratne, K. and J. Kothalawala, 2012. *Management practices survey: Private health sector*, Sri Lanka, Neilson Company, Sri Lanka.
- Nelson, D.L. and J.C. Quick, 2003. Purposes of scientific research: Applied and basic research. In D. L. Nelson and J. C. Quick (Eds), *Organizational Behaviour: Foundations, Realities, and Challenges*. 4th Edn., USA: South-Western. pp: 656-670.
- Nwankwo, O.C., 2011. *A practical guide to research writing for students of research enterprise*. 4th Edn., Port Harcourt: Pam Unique Publishers.
- Nwizu, G.C., 2002. *Studies in modern public administration*. Okigwe: Marco Press.
- Obodoeze, F.O., 1996. *Modern textbook of research methodology*. Enugu: Academic Publishing Company.
- Ogbo, A., 2010. A management challenge on cost-benefit analysis and effectiveness. *Management in Nigeria*, 46(3): 26-29.
- Pettigrew, A.M., 1987. Context and action in the transformation of the firm. *Journal of Management Studies*, 24(6): 649-670. Available at: <https://doi.org/10.1111/j.1467-6486.1987.tb00467.x>.
- Ranft, R., 1978. *Productivity. R & D productivity*. California: Hieghes Aircraft, Company.
- Reynolds, A. and V.D.H. Poll, 2015. ABC implementation in the Nelson Mandela Bay Metropole: How far should manufacturing organisations go? *Southern African Business Review*, 19(2): 118-136. Available at: <https://doi.org/10.25159/1998-8125/5810>.
- Roach, S.S., 1998. In search of productivity. *Harvard Business Review*, 76(5): 153-159.
- Schinckus, C., 2010. The importance of communicative rationality on financial market. *Journal of Economic and Social Research*, 12(2): 119 – 144.
- Shiozawa, Y., 2006. Economics and accounting: A comparison between philosophical background of two disciplines in view complexity theory. *Accounting, Auditing & Accountability Journal*, 12(1): 19-51.
- Shtub, A., 1999. *Enterprise resource planning: The dynamics of operations management*. Boston: Kluwer Academic Publishing.
- Smith, E.A., 1990. *The productivity manual*. Tokyo: Gulf Public Company.
- Steiner, T., 2000. *Activity-based accounting for total quality management*. Accounting, Englewood Cliffs, New Jersey: Prentice Hall. pp: 40.

- Stevenson, W.J., 2002. Operations management. 7th Edn., Boston: McGraw-Hill, RWIN.
- Swenson, D. and A. Ansari, 2010. Best practices in target costing. Management accounting research, 2(1): 12-15.
- Tuttle, T., 1983. Organizational productivity: A challenge for psychologists. American Psychologist, 38(4): 479-486. Available at: <https://doi.org/10.1037/0003-066x.38.4.479>.
- Ugoani, J.N.N., 2018a. Effective management decision-making and operational effectiveness in Nigeria. Amity Business Journal, 7(2): 1-8.
- Ugoani, J.N.N., 2018b. Performance ratio analysis and management effectiveness. Business Management and Economics Research, 4(12): 171-177.
- Ugoani, J.N.N., 2019a. Budget management and organizational effectiveness in Nigeria. Business Management and Economics Research, 5(2): 33-39.
- Ugoani, J.N.N., 2019b. Performance management and bank profitability in Nigeria. Business Management and Economics Research, 5(3): 49-56.
- Uwazie, I.U., 2007. Profit maximization versus wealth maximization. In U. I. Uwazie (Ed), Project Evaluation & Analysis II. Owerri: Chukwuemeka Publishers. pp: 143 – 145.
- Whittington, R. and P. Delany, 2013. Wiley CPA examination review: Outlines & study guide. 39th Edn., John Wiley & Sons Inc. pp: 77.
- Ytanyi, O., U.J.F. Ewurum and W.I. Upere, 2012. Evaluation of decision-making criteria with special references to quantitative and qualitative paradigms. African Journal of Business Management, 6(44): 1110 - 1117 Available at: <https://doi.org/10.5897/ajbm12.1299>.
- Yu, B.T.W. and P.K.C. Lee, 2012. Quality management framework for public management decision-making. Management Decision, 50(3): 420 – 438.
- Zangemeister, C., 2005. Extended economic analysis (EWA), Research Series (Eb 879) Bundessanstalt für Arbeitsschutz und Arbeitsmedizin, Dortmund.

*Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Business, Economics and Management shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.*