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IMPACT OF ACCOUNTING INFORMATION SYSTEM ON ORGANIZATIONAL EFFECTIVENESS: A STUDY OF SELECTED SMALL AND MEDIUM SCALE ENTERPRISES IN WOJI, PORTHARCOURT

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Abstract: *the effectiveness of organizations is a function of a mix of factors including internally and externally disposed factors. While the contributions of factors like human resource have been extensively studied, the input of specific accounting procedures and practices are yet to be explored extensively. This study was therefore aimed at examining the impact of accounting information system on the performance SMEs in Rivers-State. Two research objectives and questions guided the study. The study used management efficiency and cost control to proxy organizational effectiveness. Data was gathered using a five point likert scale questionnaire and was analyzed using the non-parametric kruskawalis test (H). The findings revealed that by supporting rational operational decision, accounting information system enhances management efficiency and cost control. Sequel to the findings, the researchers among others recommended that accounting officers of SMEs should be trained on the uses and skills relevant for AIS application.*

Keywords: accounting, cost control, efficiency, effectiveness, information, system, SMEs

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1. INTRODUCTION

The wind of globalization has brought with it a gradual virtual integration of world economies thereby heightening competition across boundaries of nations of the world. One of the worst hit in this new trend of change in global trade is the small and medium scale enterprises. This may not be unconnected with deficiency in capacity to innovate and adapt to changes. The managers of these small and medium scale enterprises are therefore faced with the challenge of market survival. In order to confront this economic reality, managers of SME's are involved in constant search of operational models that will keep them lean and fit, reduce cost to the barest minimum, increase profitability and enhance competitiveness. The ability to achieve the above however is a function of the quality of decisions made by the managers which also depends on the quality of information and data available to the managers.

Small and medium scale enterprises as the largest proportion of economics pillar in a country need to respond to competitive environment facing business. In many countries, small and medium business enterprises has important role in creating employment and supporting economic growth. Small and medium business enterprises (SMB) had to develop new business strategies and employ new technologies (Caldeira & Ward, 2003). The choice of the strategy should be guided by the need to increase its competitive advantage through effective production cost reduction and the adoption of new technologies.

The definitions of SME according to Etuk, Etuk and Baghebo (2014), are usually derived in each country, based on the role of SME in the economy, policies and programs designed by particular agencies or institutions empowered to develop SME. For instance, a small business in the developed economies of countries like Japan, Germany and United States of America (USA), may be a medium or large-scaled business in a developing economy like Nigeria. Moreover, the definition of SME also varies overtime from agencies or developing institutions to another, depending on their policy focus.

The above variation notwithstanding, SME can be defined based on certain criteria including, turnover, number of employees, profit, capital employed, available finance, market share and relative size within the industry. The definition can be based on either some quantitative or qualitative variables. Quantitative definitions mainly express the size of enterprises, mainly in monetary terms such as turnover, asset value, profit, as well as quantitative index like number of employees. As examples, the 1975 companies Act in the United Kingdom stated that an enterprise with a turnover of less than £ 1.4 million was small, those with turnover between £1.4 and £5.7million were medium, while those enterprises having turnover above £5.7 million were large. It also went further to classify the enterprises based on number of employees – those with fewer than 50 workers being small, between 50 and 250 workers being medium and those employing above 250 workers were described as being large. Similarly, the European Union (EU) in 1995, defined SME as any enterprise employing less than 250 employees, and went further to break down the SME into micro (less than 10 employees, small (from 10 to 49 employees) and medium (between 50 to 249 employees). In Nigeria, the National Council of Industry, 2003 categorized enterprises based on three criteria: Number of Employees, Total Cost including Working Capital but Excluding Land

Micro 1-10 employees with Less than 1 Million naira

Small 11-35employeees with 1Million but less than 40Million naira
Medium 36-100 employees with less than 200Million
Large 101 employees and above with 200Million naira and above. However, the asset base criterion is more commonly used in Nigeria. The Central Bank of Nigeria, in its 2005 guideline on Small and Medium Enterprise Investment Scheme (SMEIS), described SME as any enterprise with a maximum asset base of 200million naira (excluding land and working capital) with no lower or upper limit of staff.

Gone were the days when business organizations were simply required to make profit, survive and provide a fair return to investors' on their interest. The modern business organizations find itself in the atmosphere of global uncertainties, cut throat competition locally and internationally and unprecedented change in the economy. Hence, a great demand is often placed on the managers of these organizations to make pragmatic and informed decisions if the organization is to move forward as the success or otherwise of any organization is often a function of the sum of the decisions taken in the past. However, the quality of decisions taken by managers rests upon the substance and accuracy of information provided by systems available to them.

An accounting system is one of the most effective decision making tools of management as it provides an orderly method of gathering and organizing information about the various business transactions so that it may be used as an aid to management in operating the business (Copeland and Dascher, 1978). Accounting information also may help managers understand their tasks more clearly and reduce uncertainty before making their decisions (Chong, 1996). Thus, Accounting Information system is vital to all organizations and perhaps, every organization either profit or nonprofit oriented need to maintain an Accounting Information System as no organization is exempted from decision making in their operations.

Accounting system, in recent times, has tended to be a system of information that does not stop at limits of data and financial information, but also it includes data and descriptive and quantitative information which is useful in decision making for users distinct with plurality and diversity. Such users include current and potential investors, lenders, suppliers, creditors, customers, governments and the public in addition to the administration, which is its responsibility to prepare the accounting programs and displaying it, that information must be capable of achieving the goal that it has been prepared for. Hence the role of Accounting Information System for effective decision making cannot be over emphasized. It is noteworthy to say here that Accounting Information System derives its source from accounting data.

Accounting Information Systems produce results which enhances decision making. Hence, it can safely be concluded that Accounting Information System is not an end in itself but a means to an end i.e. decision making to improve corporate performance. Accounting Information System produces detailed and comprehensible accounting information which are invaluable basis for decision making.

Organizational effectiveness was measured in this paper by adapting two elements from the balanced scorecard as developed by Dr. Robert Kaplan and Dr. David Norton of the Harvard Business School in 1992. Balanced scorecard is a Performance Measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance. While the phrase *balanced scorecard* was coined in the early 1990s, the roots of the this type of approach are deep, and include the pioneering work of General Electric on performance measurement reporting in the 1950's and the work of French process engineers (who created the *Tableau de Bord* – literally, a "dashboard" of performance measures) in the early part of the 20th century

Statement of the Problem

Effective and efficient management of every organization is anchored on quality decisions. In order to circumvent financial disasters through wrong and ineffective decisions, there is nowadays a vast pool of financial tools available which can be used to support the decision making process in organizations, which when not explored may lead to management inefficiency. One tool that has proven to be readily available in the promotion of quality decisions in the organization is the accounting information system (AIS). While this is common in the developed countries and highly organized large firms in Nigeria, its contributions to the effectiveness of small and medium scale enterprises in Nigeria is yet to be known. This may not be unconnected with poor accounting education and inaccurate, outdated and in some cases absence of financial record keeping among SME operators. Moreover, To compete favourably in today's flexible and complex business environment, different information are required for these diverse purposes, therefore organizations have to focus on different accounting tools to support their operations.

Objectives of the Study

The general objective of this paper is to examine the impact of accounting information system on organizational effectiveness, the specific objectives includes;

i. examine the impact of accounting information system on management efficiency in SMEs
ii. examine the impact of accounting information system on effective cost control in SMEs

Research Hypotheses

The following assumptions were raised for this study;

H_{01}: accounting information system does not have significant impact on management efficiency in SMEs

H_{02}: accounting information system does not have significant impact on effective cost control in SMEs

2. CONCEPTUAL FRAMEWOK

The conceptual framework will be divided into two parts. The first part examines the concept and usefulness of Accounting Information System in organizations while the second part will examine the issue of organizational effectiveness in SMEs. In the eyes of various scholars, Accounting Information System is considered as a subsystem of Management Information System (MIS). Regarding accounting as information system is perhaps the latest definition of Accounting. For the first time in 1966 the Statement of Basic Accounting Theory, published by the American Institute of Certified Accountant

(AICPA) stated that Accounting actually is information system and if we be more precise accounting is the practice of general theories of information in the field of effective economic activity and consists of a major part of the information which is presented in the quantitative form.

In the light of the above, accounting therefore is part of the general information system of an economic entity. Hence accounting information systems could be described as systems used to record the financial transactions of a business or organization. These systems combine the methodologies, controls and accounting techniques with the technology of the IT industry to track transactions provide internal reporting data, external reporting data, financial statements, and trend analysis capabilities to affect on organizational performance (Grande, Estebanez and Colomina, 2010). Accounting Information System, according to Nicoloau (2000), is a computer based system that increases the control and enhances the cooperation in the organization. Management is engaged with different types of activities that are requires quality and reliable information. They require also non-financial information such as production statistics, quality of production and so on. However, quality of information generated from AIS is very important for management.

Kim (1989) argues that usage of AIS depends on the perception of the quality of information by the users. Generally the quality of information depends on the reliability, form of reporting, timeliness and relevance to the decisions. Effectiveness of Accounting Information System also depends on the perception of decision makers on the usefulness of information generated by the system to satisfy informational needs for operation processes, managerial reports, budgeting and control within the organization.

AIS is seen as a subsystem of a management information systems, and its major function is to process financial transaction, as well as non-financial transactions that directly affect the processing of financial transactions (Siegel & Shim; Hall 1998). Hall (2008) states that an Accounting Information System comprises four major sub-systems, these include;

• The *transaction processing system*, which supports daily business operations with numerous documents and messages for users throughout the organization;

• The *general ledger/financial reporting system*, which produces the traditional financial statements, such as income statements, balance sheets, statements of cash flows, tax returns, and other reports required by law;

• The *fixed asset system*, which processes transactions pertaining to the acquisition, maintenance, and disposal of fixed assets, and

• The *management reporting system*, which provides internal management with special purpose financial reports and information needed for decision making, such as budgets, variance reports, and responsibility reports.

Corroborating this view, Al-Najjar (2005), states that the financial job is responsible for managing financial assets, such as: feedback, inventory and other assets to organize the return on investment and the total value of the shares, it is also responsible for testing bank assets and cash flow; and from here the importance of accessing the external information has appeared. Accounting and financial information systems are the ones that keep up financial assets of the company and provide long term forecasts. Others had defined accounting information systems as: a system that collects, records, stores and handles data to provide information to decision-makers through using advanced technology or simple system or in between of the two (Romney & steinbart, 2012). Gill (2010) defined it as a collection of parts and sub systems that are connected with each other and with the surrounding environment and operate as a single overlap relationship between each other and between the system that combine it where each part depends on the other in achieving the goals sought by the comprehensive system of accounting, in order to provide data and information to decision makers.

Yankey & McClellan (2003) stated that organizational effectiveness is the extent to which an organization has met its stated goals and objectives and how well it performed in the process.
Malik et al (2011) narrated that organizational effectiveness is the concept of how effective an organization is in achieving the outcomes the organization intends to produce. Malik et al also revealed that organizational effectiveness is an abstract concept and is basically impossible to measure. Instead of measuring organizational effectiveness, the organization determines proxy measures, which will be used to represent effectiveness. In it may be included such things as efficiency of management, performance of employees, core competencies, number of people served, types and sizes of population segments served and so on. Contributing, Scott, Simon, Nick & Karina (2008) expressed that the term organizational effectiveness is usually deployed to contrast with development effectiveness. It focuses on the direct results of an agency's interventions, for which it can be held accountable, in contrast with development outcomes, which are the effect of many agencies interventions. The term OE usually focuses on the internal systems that are geared towards producing development outputs and outcomes. In this sense, it is synonymous with results based management and managing for development results.

Qualities of Effective Accounting Information
According to Ahmad (2006), in order for accounting information to achieve its desired goals, it should have the following basic properties:

- *Appropriateness:* In order for accounting information to give the desired benefit, it should be appropriate for its purpose, in addition that the appropriateness is an essential requirement for the information to be used in assessing the company's administrative policies and develop planning control over it, information is appropriate and important whether its disclosed or not or have an influence on the decision of information users.
- *Credibility:* Accounting information must contain a degree of possibility of verification or objectivity based on sufficient evidence prove and to be free from bias.
- *Accuracy:* Failure to provide accurate accounting information which causes a lack of verification of this information, because there are mistakes that result in a discrepancy between the information processed for administrative team, which leads to an error in the transfer of information to the decision maker.
- *Timing:* Timing is an important component to success in decision-making, as accounting information does not give benefit, if the decision maker doesn't have the right time or the delay in delivering information.
- *Understanding and Absorption:* The impact of accounting information in the administrative decisions stands on the extent of absorption of the management team of

this information, in order to be understandable, simplified and meaningful without resorting to detailed data.

- *Importance:* Accounting information performs its role, if it has the important characteristic, that to be a source of important information for intervention in the formulation and decision-making and neglect it will lead to create a problem for it.
- *Fulfillment:* Fulfillment standard depends on the quantity and quality of information and the extent of absorption of members of the management team in the accounting information, in order to satisfy their needs of information and give benefits that are greater than the cost of its preparation.

3. METHODOLOGY

Aham (2000) defined data analysis as the conversion of raw data into usable information. The researchers therefore used the descriptive survey approach to gather data for this study. The population of the study comprises of 556 members of staff drawn from five fifteen small and medium scale enterprises in Woji, Portharcourt. The researchers however using convenience or purposive sampling technique selected 156 employees out of the population of study. A five point likert scale questionnaire that covered the different areas of accounting information system and how it affects organizational effectiveness was used to elicit response from the respondents. The statistical tool used for data analysis was the Non-Parametric Kruskalwallis test using the 16.0 version of the Minitab statistical software (MSS). kruskawalis which is a non-parametric equivalent for one-way ANOVA may be described thus: $T = H = \frac{12}{N(N+1)}\sum_{i=1}^{k}\frac{R_i^2}{n_i} - 3(N+1)$. The researcher decided to use kruskawalis test because the variables under study has to do with measuring the attitude of SME operators towards the adoption of accounting information system as a standard practice in their operations. The decision rule is to reject the null hypothesis if H $\geq \chi^2_{(k-1)}$, where k is the degrees of freedom.

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Table 1. Data on Accounting Information System and Management Decision Quality

S/N	PROFITABILITY	OPTIONS				
		SA	A	U	D	SD
1.	Accounting information enhances timeliness in management decisions.	30	53	26	27	20
2.	Accounting information system provides platform for decision accuracy	31	51	21	30	23
3.	Objectivity in management decision is enhanced through accounting information system	35	54	22	28	17
4.	Accounting information system makes management decision concise	29	53	20	27	27
5.	Accounting information system provides for flexibility in management decision	30	47	28	24	27

Source: Field Survey 2015

Result for Research Question One

Kruskal-Wallis Test: C1 versus C2

Kruskal-Wallis Test on C1

C2	N	Median	Ave Rank	Z
1	5	30.00	17.6	1.56
2	5	53.00	23.0	3.40
3	5	22.00	6.6	-2.17
4	5	27.00	11.7	-0.44
5	5	23.00	6.1	-2.34
Overall	25		13.0	

H = 19.52 DF = 4 P = 0.001
H = 19.64 DF = 4 P = 0.001 (adjusted for ties)
From the Minitab output, the p-value is 0.001, which is less than the level of significance (0.05), therefore we reject the null hypothesis and conclude that accounting information system adoption has a significant impact on the management efficiency of SMEs.

Table 2. Data on Accounting Information System and Effective cost Control

S/N	OPERATIONAL EFFICIENCY	OPTIONS				
		SA	A	U	D	SD
6	Accounting information system contributes in effective measuring of the cost of salaries and wages	30	47	34	30	15
7.	Accounting information system contributes in the effective calculation of the cost of materials	26	52	28	29	20
8.	Accounting information system contributes in the Process of preparing transaction vouchers.	29	43	34	28	22
9.	Records maintenance cost can be reduced through accounting information system	31	43	39	24	19
10.	The cost of providing social responsibility can be effectively managed through accounting information system	34	40	33	29	20

Source: Field Survey 2015

Result for Research Question Two

Kruskal-Wallis Test: C1 versus C2
Kruskal-Wallis Test on C1

C2	N	Median	Ave Rank	Z
1	5	30.00	15.9	0.99
2	5	51.00	23.0	3.40

3	5	26.00	9.8	-1.09
4	5	27.00	13.3	0.10
5	5	18.00	3.0	-3.40
Overall	25		13.0	

H = 20.19 DF = 4 P = 0.000
H = 20.25 DF = 4 P = 0.000 (adjusted for ties)
From the Minitab output, the p-value is 0.000, which is less than the level of significance (0.05), therefore we reject the null hypothesis and conclude that accounting information system has a significant impact on the cost management of SMEs.

CONCLUSIONS

Sequel to the findings above, the researcher concludes that accounting information system has significant impact on the effectiveness of small and medium scale enterprises in Nigeria. However, these positive impacts of accounting information on SMEs effectiveness in Nigeria is mitigated by some factors which includes; SMEs operator's accounting illiteracy and poor financial record keeping.

RECOMMENDATIONS

Based on the findings and conclusions, the researchers recommend as follows;
• Operators of SMEs should integrate AIS in their decision processes
• accounting officers of SMEs should be trained on the uses and skills relevant for AIS application

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