

Improving Management Accounting and Control System (Macs) For Sustainable Innovation and Performance of Manufacturing Companies in Nigeria

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ABSTRACT: *The main purpose of the study was to determine the measures for improving management accounting and control system for innovation and performance of manufacturing companies in Nigerisustainablelea. The study was guided by three research questions and two null hypotheses. A descriptive survey research design was adopted for the study. The population for the study was 94 accountants working in 53 purposive sampled from manufacturing companies in South-East States of Nigeria. The instrument used for data collection was a 41 item questionnaire grouped into three sections. The instrument was validated and reliability of the instrument was determined using Cronbach Alpha which yielded 0.87. Out of 94 copies of the questionnaire distributed 92 were properly filled and returned representing 97.87% return rate. Mean, standard deviation and t-test statistics were the statistical tools used. From the result of data analysis, the study identified the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies. The findings of the study showed that there is no significant difference in the mean rating of experienced and less experienced on the identified the indicators. Based on the findings, recommendations were made which include; that the business managers and accountants need to understand the relevance of management accounting and control system in achieving sustainable innovation and performance in the organization and the indicators should be used to improve management accounting and control system for sustainable innovation and performance.*

KEYWORDS: Management Accounting, Control System, innovation and manufacturing companies

INTRODUCTION

Management accounting and control system is an effective tool used in monitoring organizational progress and improving innovation in management processes. Management accounting and control system can be defined as a set of procedures and processes that manage use in order to provide valuable information in decision making, planning, monitoring and evaluation. Ultimately to ensure the achievements of their goals and the goals of their organization (Bisbe & Malagueno, 2015).

It may be a process or strategy by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organizations objective. According to Nwaokike (2010), control system is the process that allows management to determine whether a business unit is performing satisfactorily and which provides motivation for business unit management to see that it continues to do so. Therefore, control system normally involves the agreement of objectives for the business between different levels of management, monitoring of performance against objectives. Management control is a process by which a manager ascertains that his subordinates are effectively and efficiently accomplishing the organizational objectives (Watts & McNair-Conolly, 2012).

When most people speak of control, think of formal results controls or the highly-specified procedures that make up action controls. In small manufacturing companies, though, the level of formality is seldom needed, control system is needed for sustainable innovation of the organization. The informal control system shaped by the personality and the drive of the entrepreneur is that is needed as long as there is mutual trust and respect. According to Dunk (2011) and Beatriz, Jacobo and Ernest (2015), management accounting and control system acts as organizational mechanisms that facilitates the appropriation of the potential benefits of sustainable innovations in terms of local and international performance.

Sustainability has moved from the margins to the mainstream. Sustainability is concerned with the intra-generational, justice, inter-generational or global justice and the balance of economic, social and environmental criteria (Tessier & Otley, 2012). Sustainability increasingly preoccupies governments as a result of this greater awareness of threats to their national and collective sustainability. Sustainability is defined as the idea of achieving an indefinite period without damaging the environment or resources. Sustainability in organizational management accounting and control system are necessary for achieving the desired result in business management and innovation. Now we move from the question as to whether small manufacturing companies

businesses. Sustainable Control System according to Beatriz, Jacobo and Ernest (2015) capture environmental and social issues in a more systematic and broader way than conventional management control system do and are usually operated by groups other than the financial accounting team with the business.

The control systems of a business are not necessarily static but in development and management control systems may incrementally add sustainability purposes whereas sustainable control systems may be developed further into more comprehensible systems balancing environmental, social and economic issues. However, the dichotomy reflects a general view that some control systems are designed to address sustainability issues and others are not. Bedford (2015) noted that sustainable business development is dependent on the quality of management in accounting processes and control of its systems. This shows that proper integration of management control system would ensure sustainability into business strategies towards achieving the business objectives.

Further, sustainability should be complemented with the capability of a business or organization to measure and manage the integration among business, society and environment. Achieving sustainable innovation keeps the business growing in all socio-political changes and technological development. It is imperative to note that management accounting principles and control system are key to sustainable innovation. Small manufacturing companies need to be evaluated to ascertain the benefit of utilizing management accounting principles and control system to achieve the desired performance. Sustainable innovation is the innovation that improves sustainable performance. Upon this background the study aims at extending understanding on the connectivity between management accounting and control system for sustainable innovation and performance.

Statement of the Problem

The case of business failures in Enugu State has become a reoccurring issues as effort needs to be made in order to build a sustainable business sustainable management information system is to investigate the relationship between management accounting of sustainability. Management accounting is the process identifying, measuring, reporting and analyzing information about economic event of organization. The process should be driven by the information needs in individuals control systems, a guide through operation and investment system. Small manufacturing companies in Nigeria suffer different kinds of setback due to lack of entrepreneurial qualities like accounting and managerial skill.

The researcher wonders why most businesses cannot effectively manage their activities and move with the trends of innovation. The businesses need to be provided with information about enterprise financial and long-run competitive performance, market conditions, customer preference and technological innovations. These cannot be assessed and utilized without effective management accounting and control system that aimed as sustainable innovation and promotion of organizational performance. The problem of the study is improving management accounting and control systems for sustainable innovation and performance of manufacturing companies in Nigeria.

Purpose of the Study

The main purpose of the study was to determine the measures for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria. Specifically, the study sought to;

1. determine the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria.
2. determine the extent business managers mobilize management accounting and control system in achieving sustainable innovation and performance in manufacturing companies in Nigeria.
3. determine the influence of location of businesses on the indicators for improving management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria.

Research Questions

The following research questions guided the study;

1. What are the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria?
2. What extent to which business managers mobilize management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria?
3. What are the influence of location of businesses on the indicators for improving management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significant;

- Ho₁ There is no significant difference between the mean rating of experienced and less experienced accountants on the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria
- Ho₂ A significant difference does not exist on the mean rating of experienced and less experienced accountants on the extent to which business managers mobilize management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria

METHODS

The study adopted a survey research design. According to Nworgu (2015), survey research design is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be a representative of the entire group. The designers adopted due to the wide distribution of the subjects. The population for the study was 94 accountants working in 53 purposive sampled from manufacturing companies in South-East States of Nigeria. The researcher sampled functional manufacturing companies South-East Zone of Nigeria due to the rapid manufacturing industrial development of the Zone. The instrument used for data collection was a questionnaire which was given to the accountants in management and control system of the companies. The questionnaire was made up of 22 items on the 2 first research questions that guided the study. The items in the instrument were structured in four points rating scale of Very Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with numerical values of 4, 3, 2, and 1 respectively. The question was validated by three experts in accounting and the reliability was determined using Cronbach alpha which yielded 0.87. This is in line with Uzoagulu (2013) who noted that reliability coefficient above 0.6 indicates that the instrument is reliable. Out of 94 copies of the questionnaire distributed 92 were properly filled and returned representing 97.87% return rate. Data collected were analyzed using mean and standard deviation to answer the research questions while t-test was used to test the null hypotheses at .05 level of significant using SPSS. The decision was based on the principle of upper and lower limit of the mean.

RESULT

The result of the study will be presented according to the research questions that guided the study.

Research Question 1

What are the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing company in Nigeria?

Table 1: Mean rating and standard deviation on the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing company in Nigeria

S/N	indicators for improving management accounting and control system for sustainable innovation and performance include;	Experience d N = 31		Less Experience d N= 61		Overall		Decision
		\bar{X}_1	SD ₁	\bar{X}_2	SD ₂	\bar{X}_G	SD _G	
1	Public awareness and training	3.08	0.89	2.95	0.78	2.95	0.79	Agreed
2	Cooperation and capacity building for improved performance	3.49	0.78	3.08	0.68	3.10	0.69	Agreed
3	Strengthening the role of major groups in organization management	3.09	0.86	3.15	0.78	3.08	0.81	Agreed
4	Transfer of environmental sound technology	3.29	0.64	3.61	0.50	3.44	0.59	Agreed
5	Financial resources and mechanisms	3.00	0.84	3.11	0.83	3.05	0.83	Agreed
6	Demographic dynamics and mindset development	3.19	0.68	3.28	0.75	3.23	0.71	Agreed
7	Changing the management and information pattern	2.86	0.96	3.11	0.68	2.97	0.84	Agreed
8	Accountability and transparency of activities	3.14	0.85	3.28	0.83	3.20	0.83	Agreed
9	Productivity and the rate of turn over	3.10	0.77	3.33	0.77	3.21	0.77	Agreed
Cluster Mean/ Standard Deviation		3.13	0.81	3.16	0.73	3.14	0.76	Agreed

Note: X =Mean; SD = Standard Deviation; N = Number of respondents;

The result of data analysis presented above shows that the overall mean rating of the respondents' responses ranges from 2.95 to 3.44 indicating agree. This implies that the respondents agreed that the itemized are the indicators for improving management accounting and control system for sustainable innovations and performance of manufacturing company. The cluster mean of 3.14 further proves their agreement. The low standard deviation of 0.76 depicts that the respondents' opinions did not differ remarkably.

Hypothesis 1

There is no significant difference between the mean ratings of experienced and less experienced accountants on the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria

Table 2: Summary of t-test item by item analysis of mean ratings of experienced and less experienced accountants on the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria

Variables	N	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Decision
Experienced	31	1.324	90	.194	1.69841	1.28304	NS
Less Experienced	61						

The result of data analysis in Table 2 shows that the t-value at 0.05 level of significant and 90 degree of freedom for the nine items is 1.324 with significant value of 0.194. Since the significant value of 0.194 is more than 0.05 level of significant, the null hypothesis is not the significant. The implication is that there is no significant different in the mean ratings of experienced and less experienced accountants on the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria. Therefore, the null hypothesis is upheld

Research Question 2

What extent to which business manager mobilizes management accounting and control system in achieving sustainable innovation and performance?

Table 2: Mean ratings and standard deviation on the extent business manager mobilize management accounting and control system in achieving sustainable innovation and performance

S/N	extent to which business manager mobilizes management accounting and control system include;	Experience d N = 31		Less Experience d N= 61		Overall		Decision
		\bar{X}_1	SD ₁	X ₂	SD ₂	\bar{X}_G	SD _G	
10	Organizational productivity control issues	3.35	0.53	3.08	0.81	3.12	0.81	HE
11	Employee performance index	3.27	0.93	3.24	0.68	3.25	0.76	HE
12	Information system and decision making	3.29	0.89	3.19	0.66	3.19	0.67	HE
13	Devising sustainable business decision	3.25	0.95	3.09	0.60	3.14	0.61	HE
14	Building international sustainability in innovation	3.08	0.87	3.15	0.78	3.09	0.78	HE
15	Obtaining valuable and timely feedback in performance indicator	2.81	0.87	2.83	0.86	2.82	0.85	HE
16	Maintaining a competitive position in customers satisfaction	3.27	0.63	3.14	0.87	3.21	0.78	HE
17	Developing information technology of financial management.	3.33	0.79	3.38	0.85	3.32	0.81	HE
Cluster Mean/ Standard Deviation		3.21	0.81	3.14	0.76	3.14	0.76	HE

Note: X =Mean; SD = Standard Deviation; N = Number of respondents; HE= High Extent

The data presented in the table above shows that the overall mean rating of the respondents' responses ranges from 2.82 to 3.32 indicating high extent. The implication of this is that the itemized are mobilized by business managers to a high extent in management of the company performance towards achieving sustainable innovation. The overall cluster mean of 3.14 further shows high extent and the low cluster deviation of 0.76 indicate that the responses are homogenous.

Hypothesis 2

A significant difference does not exist on the mean ratings of experienced and less experienced accountants on the extent to which business managers mobilize management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria

Table 4: Summary of t-test item by item analysis of mean ratings of experienced and less experienced accountants on the extent to which business managers mobilize management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria

Variables	N	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Decision
Experienced	31	.087	90	.931	-.15873	1.82677	NS
Less Experienced	61						

The result of data analysis in Table 4 shows that the t-value of 0.05 level of significant and 90 degree of freedom for the eight items is 0.087 with significant value of 0.931. Since the significant value of 0.931 is more than 0.05 level of significant, the null hypothesis is not significant. The implication is that there is no significant different in the mean ratings of experienced and less experienced accountants on the extent to which business managers mobilize management accounting and control system for sustainable innovation and performance in manufacturing companies in Nigeria. Therefore the null hypothesis is upheld.

Research Question 3

What are the influence of location of business on the indicators for improving management accounting and control system for sustainable innovation and performance of manufacturing companies in Nigeria?

Table 3: Mean rating and standard deviation of urban and rural location of businesses on the indicators for sustainable innovation and performance of manufacturing companies in Nigeria

S/N	indicators for improving management accounting and control system for sustainable innovation and performance include;	Rural 21	N =	Urban 71	N=	Overall	Decision	
		\bar{X}_1	SD ₁	\bar{X}_2	SD ₂	\bar{X}_G	SD _G	
18	Public awareness and training	3.32	0.92	3.20	0.62	3.25	0.73	Agreed
19	Cooperation and capacity building for improved performance	3.28	0.72	3.49	0.43	3.46	0.52	Agreed
20	Strengthening the role of major groups in organization management	3.48	0.49	3.28	0.65	3.43	0.51	Agreed
21	Transfer of environmental sound technology	3.29	0.61	3.42	0.59	3.38	0.55	Agreed
22	Financial resources and mechanisms	3.31	0.74	3.35	0.50	3.33	0.48	Agreed
23	Demographic dynamics and mindset development	3.04	0.67	3.44	0.83	3.24	0.77	Agreed
24	Changing the management and information pattern	3.03	0.81	3.27	0.78	3.19	0.74	Agreed
25	Accountability and transparency of activities	2.62	0.99	2.73	1.04	2.69	1.02	Agreed
26	Productivity and the rate of turnover	3.10	0.74	2.85	1.01	2.93	0.93	Agreed
	Cluster Mean/ Standard Deviation	3.16	0.74	3.23	0.72	3.21	0.72	Agreed

Note: \bar{X} = Mean; SD = Standard Deviation; N = Number of respondents;

The results of data analysis in table 3 show that the mean ratings of urban and rural respondent are closely related. Item 18 has mean rating of 3.32 for the urban while rural is 3.20, this shows that there is no influence of location on their responses to the items. The cluster mean of 3.16 was obtained for urban and 3.23 for rural, both fall within agreed showing that there is no significant influence of location to the respondent responses to the itemized on the indicators for improving management accounting and control system for sustainable innovation and performance.

DISCUSSION OF FINDINGS

The findings of the study showed that the itemized are that management accounting and control system have no limit in terms of business location.

CONCLUSION

Management accounting and control system indicators have been identified and the process should be driven by information. Needs of the individuals and the organization decision management accounting is the process of identifying, measuring, reporting and analyzing information about

economic events organizations. The study identified the extent business managers mobilize MACS in the management for sustainable growth and performance. The result of the study showed that items are mobilized to a high extent. The study found that with management accounting and control systems organization has the capability of achieving sustainable innovation and performance.

Recommendations

The following recommendations were made based on the findings of the study;

1. Business managers and accountants need to understand the relevance of management accounting and control system in achieving sustainable innovation and performance in the organization.
2. The indicators should be used to improve management accounting and control system for sustainable innovation and performance.

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