

Management Accounting Practices in the Developing Economies: The Case of Nigeria Listed Companies

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Abstract: This study investigated the management accounting practices in developing economy with a particular reference to the Nigeria listed manufacturing organizations. The three objectives for this study were the investigation of the adoption level of the new management accounting techniques, identification of factors influencing the choice of management accounting practices in manufacturing organizations and the extent to which management accounting practices were influenced by those factors. Descriptive and inferential statistics were carried out on the opinion of 148 randomly selected staff of listed manufacturing companies in Nigeria. The findings revealed that cost volume profit analysis, marginal costing, accounting rate of return, discounted net present value, and internal rate of return were very prominent in manufacturing companies in Nigeria. Since the activity based management and balanced score card has not been fully embraced, it is therefore recommended that adequate awareness should be created for the said techniques.

Keywords: Management Accounting; Developing Economies; Manufacturing Organizations; Nigeria Stock Exchange

1. Introduction

According to Tuan (2010), manufacturing industries are the most active and important contributors to the developing economy after the services sector. In 2006 the manufacturing sector contributed 31.1% of the total GDP, and 29.1% of total employment in Malaysia. In developing countries, manufacturing sector often receives preferential treatment from policy makers. According to Tybout (2000), most developing countries' government promotes manufacturing with special tax concessions and relatively low tariff rates for importers of manufacturing machinery and equipment. Consequently, accordingly to Oyerogba, (2014) manufacturing organizations have been found to be the pivot of Nigeria economy as it contributed 39.67 to the nations GDP in 2011. It was also noted from the SEC report for the year 2012 that manufacturing industries remains the major employers of labor apart from banking industries.

Considering this enormous role of manufacturing organizations on the growth and development of the developing economy, there is the need to put in place necessary mechanism to sustain this sector of the economy. Hence, the need for proper management accounting practices by the manufacturing organizations. Management accounting has been defined by Mbogo, (2011) as an integral part of the management process, distinctly adding value by continuously probing whether resources are used effectively by people and organizations - in creating value for customers, shareholders or other stakeholders. According to Kaplan (1984), management accounting must serve the strategic objectives of the firm and it cannot exist as a separate discipline. The study and usage of management accounting practice must be tailored to a firm's specific objective and thus cannot be universally applied without regard to the firm's individual uniqueness. The individual firm's uniqueness is responsible for the choice of management accounting practices. This management accounting practices include both the traditional techniques and the modern technique.

Similarly, since the early 1980s a number of innovative management accounting techniques have been developed such as activity-based management, strategic management accounting, and the balanced scorecard. These 'new' techniques have been designed to support modern technologies and modern

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management accounting practices, such as total quality management, cost-volume-profit analysis, absorption costing, marginal costing and just-in-time production systems, and the search for competitive advantage to meet the challenge of global competition.

However, it has been argued by Magdy and Robert (2006), that the new techniques have affected the whole process of management accounting (planning, controlling, decision-making, and communication) and have shifted its focus from a 'simple' role of cost determination and financial control, to a 'sophisticated' role of creating value through enhanced use of resources. This can only be done by putting in place adequate management accounting techniques in an organization. To this end, this study evaluated the management accounting practices in developing economies with special preference to the listed Nigeria manufacturing organizations. Other objectives of the study includes determining the level of adoption of modern management accounting techniques, identifying the factors influencing the choice of management accounting practices in manufacturing organizations and also investigate the extent to which management accounting practices was influenced by the factors.

The basic idea is that, adoption of modern management accounting practices enables the management to avoid unnecessary cost and meet the profit target of the organization. This is in line with the submission of Oyerogba (2014), which suggested that cost management strategies that focus on reduction of production overhead and administrative overhead should be embarked upon by the manufacturing organizations if their profit maximization and wealth creation objectives will be met. Also, employees are motivated to put in their best when they are aware that they have been given a predetermined target and that their performance will be measured alongside this target and thereby enhance productivity.

This paper offers several contributions to the existing literatures on the subject matter. First, the study empirically investigated the level of adoption of management accounting techniques by manufacturing organizations in developing economy. This will enable the constituted authorities and stakeholders in the field of management accounting intensify effort to create adequate awareness for the new management accounting techniques. Second, analysis of factors influencing the choice of management accounting practices was done. These factors were classified into internal and external factors using the guidelines in the review of literature. Internal factors are within the reach of the management and if properly addressed can lead to higher productivity. Third, the study also identified the economic role of manufacturing organization in the developing countries. The rest of the paper is as follows: the review of relevant literature was done in section 2. Research design was done in section 3. Section 4 presents the results of data analysis while the study was concluded in section 5.

2. Literature Review

2.1 Theoretical Review

2.1.1 Contingency Theory and management accounting practices

In a study by Otley(1980), applied contingency theory to management accounting practices and explained the observation that there is no single generally applicable standard accounting practice that can effectively be applied to all organizations. Each organization will have its own management accounting practices that best suits its conditions, this theory goes further to look at certain influential factors that will assist management to decide on an appropriate management accounting practice, these factors can either be the organization structure, technological changes and the infrastructure of an organization. According to Sine and Krisch(2006), management accounting practices differ in organizations as a result of the uniqueness in their operations and environment. Technology has a very significant influence in the choice of a management accounting practice in a firm. For instance, Szchta(2002) found that technology had a significant influence in the adoption of modern management accounting techniques in Polish firms , whereas AL-Omiri and Drury(2007) found that more sophisticated cost systems were positively associated with the importance of cost information, size, the

intensity of competition and the financial sector. In this regard they noted that activity based costing adoption was also associated with the use of other innovative management accounting techniques like lean production and just-in-time in the service sector. Since firms compete on different fronts like, quality, price, reliability on delivery, and customer service there comes a challenge to management accountants to innovate and adapt new methods of management accounting in order to be more relevant on optimal competition fronts. Failure by management accountants to be more adaptive to new effective techniques shall result in other professionals filling the gap and thus in the long-term rendering the management accounting function less relevant (Binnersley, 2008). The method of management accounting adopted should be the most effective to provide the required information from both internal and external environs in a firm. The Australian study by Birkett(1989), found that the purpose of management accounting was to “provide management with the necessary key information as quickly and accurately as possible so as to enable appropriate action to be taken in a more timely manner”. According to Mbogo(2011), prudent management accounting in aspects like information analyses as well as integrating training level and managerial accounting capabilities of SME owners and the managers results to a more strong, positive and significant influence on the decision making and consequently are critical for SMEs growth and survival.

2.2. Empirical Review

Traditional management accounting practices have been under substantial criticism for their lack of efficiency and capability in coping with the requirements of a changing environment during the last two decades (Askarany& Smith, 2004; Beng et al., 1994; Bork & Morgan, 1993; Chenhall, 2003; Gosselin, 1997; Hartnett & Lowry, 1994; Lefebvre & Lefebvre, 1993; Spicer, 1992). Such criticism relate to the failure of traditional management accounting practices to provide detailed information on activities important for organizations. Lawrence and Ratcliffe (1990) support this argument by providing survey evidence of levels of dissatisfaction among both management accountants and managers with the management accounting techniques being used in industry. Bork and Morgan (1993) echo this observation, suggesting that traditional management accounting systems have failed to keep up with the increasing demands imposed on them by technological change in manufacturing environments. They also suggest that research has shown that both the preparers and users of management accounting information are dissatisfied with their product cost and management accounting techniques. Unsurprisingly, therefore, the management accounting literature has witnessed a growing interest into the study of the diffusion of management accounting innovations (Anderson & Young, 1999; Askarany, 2003; Askarany& Smith, 2001, 2003b; Booth &Giacobbe, 1998; Chenhall&Langfield-Smith, 1998; Cooper & Kaplan, 1991; Gosselin, 1997; Johnson, 1992; Johnson & Kaplan 1987; Hartnett & Lowry, 1994; Maiga& Jacobs, 2003; Malmi, 1999).

Reviewing management accounting innovations of the last two decades, Björnenak and Olson, (1999, p.327) identifies the major recently developed management accounting techniques in the literature as follows: “activity based costing (ABC); activity management (AM) and activity based management (ABM); local information system (LS); balanced scorecard (BS); life cycle costing (LCC) and target costing (TC); strategic management accounting (SMA).” Consistent with Björnenak and Olson (1999), Chenhall andLangfield-Smith's (1998) study suggests that most popular recently developed management accounting innovations in Australia could be identified as: performance measurement and balanced scorecard techniques, activity based costing, valued added concepts, total quality management, strategic management, risk management, benchmarking, economic value added and target costing.

However, according to Chenhall and Langfield-Smith (1998), the take-up of these management accounting innovations is dismally low and the level of adoption of most of these new techniques lags relatively behind those of traditional ones. For example, Chenhall and Langfield-Smith (1998) findings show that the ranking in terms of adoption of some of these new techniques in Australian firms are: activity based costing ranked (24), activity based management (21), product life cycle

analysis (20), target costing (27). Chenhall and Langfield-Smith compare this ranking with some of the traditional management accounting techniques such as analysis for budgeting for planning financial position (1), capital budgeting (2), performance evaluation using return on investment (3). In a comparative analysis, they conclude that the rates of adoption of recently-developed techniques in other countries such as U.S.A., U.K. and mainland Europe are even lower than those applied in Australia. Supporting this view, with a particular reference to ABC, Askarany and Smith (2003) discovered that only 19 percent of organizations registered with CPA in Australia have implemented and accepted ABC by the end of year 2002. Prior to this study Chenhall and Langfield-Smith (1998) found that adoption rate for ABC was generally below 14%. Other studies on the adoption of management accounting technique also indicate that the take-up of new techniques is following same pattern overseas. For instance, Innes and Mitchell (1995) in the UK find that the adoption rate for new management accounting techniques is generally below 14%.

3. Research Methodology

By means of survey design, this study investigated the use of modern management accounting techniques in developing economy with a particular reference to the Nigeria listed manufacturing organizations. This design was considered appropriate by the research because of lack of control over the responses and inability to manipulate sample subjects. The study relied on secondary data obtained through the administered copies of the questionnaire. The population for the study consisted of the 78 manufacturing organizations listed on the Nigeria stock exchange during the period 2003-2012. Given the relatively small population, two respondents (management accountant and production manager) were selected from each companies resulting into 156 respondents which formed the sample for the study using purposeful sampling technique.

To enhance the validity of the research instrument used, a draft copy of the research instrument was given to two holders of doctoral degree in accounting and a professor of accounting and finance whose constructive criticisms were taken into consideration to ascertain that the instrument captured all the vital aspect of the study. Also, in order to ensure the reliability of the research instrument, a test and retest method was used. The results of reliability analysis revealed a cronbatch alpha of 0.982 for items relating to the use of management accounting techniques and 0.886 for questions relating to the factors influencing the choice of management accounting practices by manufacturing organizations.

For data analysis, the study adopted both descriptive and inferential statistics with the aid of stata-64. Descriptive statistics includes the frequency and percentages while the inferential statistic used was multiple regression analysis. The general formula for the study model is $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + e$

Where:

- i. Y = the value of the dependent variable
- ii. $\{ \beta_i; i=1,2,3,\dots,9 \}$ = The coefficients representing the various independent variables.
- iii. $\{ X_i; i=1,2,3,\dots,9 \}$ = Values of the various independent (covariates) variables.
- iv. e = the error term which is assumed to be normally distributed with zero mean and constant variance.

4. Presentation and Analysis of Data

4.1 The use and importance of management accounting techniques.

As the study relied on primary data, 156 copies of questionnaire were administered to a sample of 156 respondents drawn from the 78 listed manufacturing companies in Nigeria to include the management accountants and the production managers. 148 copies of the questionnaire were received and used for the analysis. Respondents were asked to indicate the frequency of usage of 18 management accounting techniques using a 5 Likers scale (1 indicating never used and 5 indicating very regularly used).

On the extent to which cost volume profit analysis is being used for profit planning by manufacturing organizations, 52% of the companies affirmed that cost volume profit analysis is either regularly or very regularly used for profit planning in their organizations as presented in table 1. By inference, a moderately large number of companies have pre-planned profit target before the commencement of operation with the use of cost volume profit analysis. This implies that the technique was not perceived as a theoretical concept that is not applicable to the real life situation.

There was high level of management accounting techniques being used for short term decision making. This was supported by 78% responses affirming that marginal costing techniques have been adopted by their organizations for short term decision making. This implies that management are prone to making a well informed decision on short term basis as only the relevant costs are included in the cost analysis. However, on the other hand, it can be inferred that the use of overhead cost allocation was neglected by the selected companies indicating that marginal costing was much more common than absorption costing. Since managements were able to differentiate between relevant and irrelevant cost, it implies that they were aware of the existence of overhead allocation techniques but may believe should be written off annually or occasionally which may be dangerous to the long term survival of the organizations.

Capital expenditure appraisal was perceived to have gain wider acceptability in the developing economies as most of the sampled companies used one capital expenditure appraisal or the other. Responses on question relating to capital expenditure appraisal presented in table 1 revealed that accounting rate of return, discounted net present value and internal rate of returns were the commonly used techniques with response rate 84%, 62% and 81% respectively. It was also discovered from the responses that both payback period and capital rationing techniques were never and rarely used respectively. Perhaps, this could be because of the failure of the payback period to take into account risk associated with each project and the companies' attitude to risk and also, treatment of project in isolation by capital rationing.

Contrary to expectation, it was observed from the responses that out of 148 responses, 7% (10 respondents) moderately used activity based management, while 15% (22 respondents) rarely used and 78% (116 respondents) never used activity based management for operation decision making in their organizations. It can be concluded from the results that activity based management is still at the introductory or elementary stage. This could be as a result of the perceived risk associated with the use of the technique in that some activities that have implicit value and not necessarily reflected in financial value to any product are not supported by the technique. For instance, according to Kaplan and Cooper (1998), a particular pleasant work place can help attract and retain best staff but may not be identified as adding value in operational activity based management.

The survey result on the use of balanced score card revealed that balanced score card was either rarely or never used for performance measurement in manufacturing organizations with the response rate 52% and 38% respectively. Taking together, almost all the sampled companies were unfamiliar with the use of balanced score card for performance measurement. Poor awareness on the merits of the technique in developing economies could be responsible for this compliance level.

4.2 Analysis of factors influencing the choice of management accounting practices

The factors influencing the choice of management accounting practices were classified into internal and external factors as explained in the literature review. Factors such as firm structure, size of the firm, age of the firm, and human resources were classified as internal factors while competition, technological advancement, infrastructure, regulatory framework and availability of materials were classified as external factors. The result of this analysis can be found in table 2

In table 2, Size of the organization was perceived to be a significant factor influencing the choice of management accounting practices with response rate 26% and 58% for agreed and strongly agreed respectively. This implies that adequate management accounting practices are likely to be implemented by large organizations. This was in agreement with the result of Magdy and Robert (2006) which predict a link between company size and the use of sophisticated management accounting techniques.

Consequently, contingency theory which classified organization structure as a major factor in the determination of management accounting techniques was justified on the ground that the empirical result of this study revealed that management accounting practices was more prominent in a decentralized organizations where each manager was held responsible for the activities of his department than in a centralized organizations. This was evident from the empirical result with 44% agreed, 14% strongly agreed, 4% indifferent, 32% disagreed and 6 % strongly disagreed

However, age of the firm on the other hand was considered insignificant in selecting management accounting techniques since a significant minority of companies (29%) agreed and strongly agreed that management accounting practices was influenced by the organization age. This was contrary to the findings of Lucas, Wenglas and Douglas (2013) which predicts a significant relationship between the length of existence of company and efficient management accounting practices

As expected, and supported by other research findings such as Lucas, Prowle and Lowth (2013) on the management accounting practices of the UK small and medium enterprises, Kaplan and Cooper (1998), human resources (educational background, professional qualification, job experience,) was considered by the majority (82%) to have a significant influence on the selection of management accounting practices. This implies that firms with qualified and experienced accountants tends to implement adequate management accounting techniques since professional competency is required in handling some of these management accounting techniques.

Furthermore, on the importance of infrastructural development to the development of management accounting practices, 66% of the respondents either agreed or strongly agreed that management accounting practices was significantly influenced by existence of infrastructure. This was supported by infallible evidence that many multinational organization that were resident in Nigeria have relocated to the neighboring countries owing to the inadequate power supply while others have resolved into generating their energy internally which has eventually led to increase in the cost of production that is capable of either increasing the product price or reducing the company's profit.

On the extent to which management accounting practices was influenced by competition, the results (81%) shows that the greater the competition, the wider the management accounting practices as management will be put on their toes to outperform their peers in order to remain in the market.

Surprisingly, it was discovered that availability of raw materials appeared to be an insignificant factor in selecting management accounting techniques as many of the firm generated their raw materials through their work in progress and multi-product activities. This may and may not, in fact, be the case with the smaller firms with a single product line.

In like manner, regulatory framework was perceived to be insignificant in the selection of management accounting techniques because management accounting information was considered to be an internal document used mainly by the management without a strict disclosure requirement.

4.3. Inferential Result

To empirically establish the statistical significance of the factors influencing the choice of management accounting practices in the manufacturing organizations, regression analysis was carried out. From the result of this analysis as presented in table 3 to 5, R-Square was 0.963002. This implies that the combined effect of firm structure, firm size, human capital, infrastructure, competition, raw material, age of the firm and regulatory pronouncement was responsible for 96% of the variation in the choice of management accounting practices while the remaining 4% was due to the other factors not captured in this study.

Consistent with the findings of Tuan, (2010) on a sample of 212 respondent drawn from the manufacturing organizations in Malaysia which suggest a significant relationship between organization structure and management accounting practices, the coefficient on firm structure was significantly positive at 0.2566 (t- statistic = 22.2212), suggesting that effective management accounting practices is associated with a well-organized firm structure.

Similarly, the coefficient on the firm size was positive and significant at 1% level of significance. The coefficient was 0.4611 while the t- statistic was 24.1744. Thus, adequate management accounting practices was higher in large firms than it was in smaller firms.

The result on human capital was also statistically significant. For instance, the coefficient of 0.2798 and t- statistic 10.2545 implies that a unit increase in human capital is associated with 285 increases in the use of management accounting techniques by manufacturing organizations. This result is an extension of literature in Owolabi and Abdul-Hammed (2011) which advocated the need for manufacturing firms to demonstrate high level of commitment to employee involvement in decision making for performance enhancement.

The result on infrastructural development yielded quantitatively similar conclusion. The coefficient was significantly positive at 1% level of significance. While this result was consistent with the descriptive results with a high level of management accounting practices being associated with infrastructural development, caution should be taken in interpreting the results since the study did not put into consideration other infrastructure other than power supply.

Consistent with prior research that competition is a key factor to effective management function, the result on the relationship between management accounting practices and competition indicates a significantly positive coefficient. More importantly, the positive and significant coefficient of 0.0846 (t- statistic = 5.4915) implies that management accounting practices reaction to competition was 8.46%. This result agreed with the findings of Mohammed, (2009) which pointed out a link between competition and the use of sophisticated management accounting techniques

5. Conclusion and Recommendations

This empirical study investigated the management accounting practices in the developing economies with a particular reference to the Nigeria listed manufacturing companies. The basic objectives of the study was to determine the adoption level of the new management accounting techniques and also identify the factors influencing the choice of management accounting practices in the manufacturing organizations.

Drawing from the opinion of 148 randomly selected management staff of the selected firms, the new management accounting techniques such as activity based management and balanced score card have not been fully embraced by the manufacturing organizations in the developing economies. The practice of old management accounting techniques which include cost volume profit analysis, marginal costing techniques, accounting rate of return, discounted net present value, and internal rate of return is on the increase in the present day practice of management accounting. This is not because

the new management accounting techniques are without prospect but the task of adequate awareness might not have been carried out.

Furthermore, investigation of factors influencing the choice of management accounting practices in developing economies revealed that internal factors such as firm size, firm structure, human capacity development and external factors like infrastructure and competition significantly influence the choice of management accounting practices in the developing economies. The responsibilities now lies on the management to ensure the implementation of policy which can enable the organizations overcome those identified factors.

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Appendices

Table 1. The use and importance of management accounting practices in manufacturing organization

	VRU		RU		MU		RAU		NU		TOTAL	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	frequency	%	Frequency	%
Cost volume profit analysis	59	40	18	12	6	4	44	30	21	14	148	100
Marginal costing techniques	80	54	36	24	9	6	7	5	16	11	148	100
Accounting rate of returns	59	40	65	44	12	8	3	2	9	6	148	100
Discounted net present value	36	24	56	38	3	2	38	26	15	10	148	100
Internal rate of return	105	71	15	10	7	5	21	14	-	-	148	100
Payback period	-	-	-	-	-	-	98	66	50	34	148	100
Capital rationing techniques	-	-	-	-	-	-	77	52	71	48	148	100
Activity based management	-	-	-	-	10	7	22	15	116	78	148	100
Balanced score card	6	4	9	6	-	-	77	52	56	38	148	100

Source: Survey, 2014

Table 2. Analysis of factors influencing the choice of management accounting practices in manufacturing organizations

	SA		A		IND		D		SD		TOTAL	
	frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Internal factors												
Firm size	86	58	39	26	-	-	3	2	20	14	148	100
Firm structure	20	14	65	44	6	4	48	32	9	6	148	100
Age of the firm	19	13	24	16	-	-	76	51	29	20	148	100
Human capital development	92	62	29	20	-	-	12	8	15	10	148	100
External factors												
Infrastructure	6	4	92	62	29	20	18	12	3	2	148	100
Competition	55	37	65	44	7	5	21	14	-	-	148	100
Availability of raw materials	19	13	12	8	-	-	67	45	50	34	148	100
Regulatory framework	15	10	21	14	15	10	29	20	68	46	148	100
Technological advancement	31	21	29	20	20	14	15	10	53	35	148	100

Source: Survey, 2014

Table 3. Model Summary

Indicators	coefficient
Multiple R	0.981327
R square	0.963002
Adjusted R square	0.960607
Standard error of estimated	0.093142
Observation	148

Table 4. Analysis of Variance

Degree of freedom	Sum of square	Mean square	F	Sig.
Regression	9	31.38741	3.487489	401.9966
Residual	138	1.205884	0.008675	0.0071
Total	147	32.59329		

Table 5. Regression coefficient

Variables	Beta	Std. error	t-stat	P- value
Constant	0.466998	0.086789	5.380825	0.030
Firm structure	0.256604	0.011548	22.22119	0.013
Firm size	0.461054	0.019072	24.17439	0.036
Human capital	0.279764	0.027282	10.25449	0.011
Infrastructure	0.235246	0.011703	20.10092	0.057
Competition	0.084577	0.015401	5.491528	0.018
Raw materials	-0.08723	0.014122	-6.17656	0.068
Regulatory pronouncement	0.008320	0.010491	0.792710	0.004
Age of the firm	0.022463	0.011501	1.953116	0.000
Technological advancement	0.054450	0.018470	2.948200	0.000