AN EMPIRICAL INVESTIGATION OF THE ADOPTION STATUS OF THE NEW MANAGEMENT ACCOUNTING TECHNIQUES AMONG KENYAN MANUFACTURING COMPANIES

Oluyinka Isaiah Ogungbade
Jomo Kenyatta University of Agriculture and Technology
Nairobi, **KENYA**

Patrick Esiemogie Idode
Bells University of Technology, Ota, Ogun State
NIGERIA

Muyiwa Ezekiel Alade
Adekunle Ajasin University
Akungba, Ondo State
NIGERIA

ABSTRACT

The aim of this study is to investigate the adoption status of modern management accounting techniques among Kenyan manufacturing companies and the challenges facing the adoption of the new techniques. A well structured questionnaire was used to collect the data.56 companies which represents 30% of the population were sampled and 43 of them returned the completed questionnaire. Descriptive statistics, one sample t-test and Spearman correlation were used to analyze the data. It was found out that most of the new techniques have not been adopted as only Total Quality Management, Customer Accounting, Throughput Accounting and Back flush Accounting have been partially or fully adopted. As touching the difficulties facing the adoption, lack of management support is the most prevailing difficult, followed by lack of awareness of those techniques and preference for financial/historical information. The findings of this study also indicate that manufacturing companies in Kenya currently practices traditional management accounting techniques while some of them use some new techniques alongside. Empirical evidence from this study also suggests a moderate and positive relationship between firm size and adoption of modern management accounting techniques.

Keywords: Accounting, Techniques, Adoption, Management, Cost.

INTRODUCTION

Inefficiency in resource use appears to be one of the major economic problems confronting the manufacturing organizations in developing countries (Ajibolade, 2013). Riahi-Belkaoui, (1994) describes inefficiency in resource as using a nation's resources to make the wrong products, or poorly using the resources even in making the right products. Efficiency of the manufacturing companies is inevitable if the sector would contribute meaningfully towards solving some of the nations' economic problem(Ajibolade, 2013); management accounting system has been suggested as a solution to inefficiency by providing information that can assist managers in fulfilling the goals of the organizations(Horngren et al., 1994).

However, within the last three decades, the traditional cost and management techniques have received a lot of criticisms from various authors. The critics championed by Johnson and Kaplan (1987) claim that management accounting has lost its relevance due to the innovations and dynamism of business environments (Johnson and Kaplan 1987). The critics of the conventional techniques did not only point out the inefficiencies of the old techniques but have also advocated for new management accounting techniques.

Management accounting traditionally uses certain techniques such as standard costing, variance analysis, absorption costing, marginal costing, Cost Volume Profit Analysis and process costing among others to provide information for managers (ICAN, 2014; Ashfaq, Younas, Usman & Hanif 2014; Ajibolade, 2013, Ekibatani & Sangeladji, 2008) but these traditional techniques have been severely criticized of "relevance loss" by many authors (Johnson and Kaplan 1987). The traditional management accounting system has been criticized of being subservient to financial accounting and hence produces information that is too late, too aggregated and too distorted to be relevant for managers' planning and control decisions (Waweru, 2010; Johnson & Kaplan 1987; Kaplan, 1984). This criticism has generated a lot of controversies about the usefulness of management accounting in the 21st century business. In a bid to address the weaknesses of traditional management accounting techniques, the critics of traditional management accounting techniques have advocated for modern techniques such as Balanced Score Card, Activity Based Costing/ Activity Based Management (ABC/ABM), Life cycle Costing, Target Costing, Just in Time (JIT), Kaizen Costing and the host of others. However, the empirical studies show that the traditional techniques are still being used in many nations of the world such as Turkey (Badem, Ergin, and Dury 2013, 87), UK (Dugdale, Jones and Green 2005, 4), US (Rosemary and Cheryl 2004) and Bangladesh(Mazunder, 2007; Yeshmin and Fowzia, 2010) among others.

It is worrisome that despite the severe criticisms of traditional management accounting techniques and the acclaimed benefits of the modern techniques, the adoption of modern management accounting techniques in many parts of the world is still very low. This study unearths the adoption status of the new management accounting techniques in Kenyan manufacturing companies and found out that modern management accounting techniques have not been adopted as only Total Quality Management(TQM), Customer Accounting, Throughput Accounting and Back Flush Accounting have been either fully or partially adopted. The study also found that lack of management support, Lack of awareness of those techniques and preference for financial/ historical information are responsible for low adoption of the new techniques. The current management accounting practices among manufacturing companies in Kenya majorly include traditional management accounting practices and some modern techniques. Evidence from this study also suggests a positive moderate relationship between firm size and adoption of modern management accounting techniques. The rest of this paper is divided into Literature Review, Methodology, Result, Discussion and Conclusion**.**

LITERATURE REVIEW

Traditional management accounting has been heavily criticized of relevance loss in the 21st century. It is criticized of being subservient to financial accounting and consequently produces information that is too late, too aggregated and too distorted to be relevant for managers' planning and control decisions (Kaplan, 1984, Johnson and Kaplan 1987). However, despite the heavy criticisms advanced against the traditional management accounting techniques, the extant literatures show that they are still being widely used while the modern techniques are still unpopular in some places despite a lot of advantages credited to them (Badem, Ergin, & Dury, 2013; Dugdale, Jones & Green 2005; Rosemary & Cheryl 2004).

Diffusion of innovation theory

Rogers and Scott (1997) defines innovation, as simply "an idea perceived as new by the individual and diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system, or a special type of communication concerned with the spread of messages that are perceived as new ideas.

Size is the most ambiguous influencing factor in diffusion of innovation (Askarany & Smith, 2008). Firm size can be determined based on different parameters and number of employees is one criterion for determining size of firms and categorizing firms to small, medium and large firms (Askarany & Smith, 2008). The influence of firm size on innovation has produced mixed result; as some claim that large firm adopt innovation faster than small firms because of their ability to afford capital, to put up with the costs of innovation and bear the risk of failure (Brown (1981, cited in Askarany & Smith, 2008); others such as Nooteboom (1994) claim that small firms bring technological change to the market more quickly than large businesses. The claims of Noteboom rest on the premises of less bureaucracy, greater motivation, better survey of the entirety of the project, and greater proximity to the market associated to small firms while Feldman (1994) posits that small businesses are the prime source of technological change in certain industries.

Nimtrakoon and Tayles (2010) found out that larger firms in Thailand obtain higher benefit from both contemporary and traditional MAPs than smaller firms. Ahmad and Zabri (2012) also state that both Malaysian small and medium firms made extensive use of traditional management accounting practices (MAPs) and only selectively use modern MAPs but claim that medium firms adopted as twice as many small firms. Evidence from Australia suggests the existence of a significant positive association between business size and both the diffusion of manufacturing innovations, and the diffusion of ABC in organizations (Askarany & Smith, 2008).The mixed results on the effect of firm size on innovation makes this study to propose the following hypotheses:

H_{o1} Kenyan manufacturing companies have not adopted modern management accounting techniques

H_{02} There is no relationship between firm size and the diffusion of modern management accounting techniques.

METHODOLOGY

This section comprises a systematic approach adopted by the authors towards achieving the objectives of this study. It comprises the study population, sampling technique, sample size, research instrument and statistical techniques.

POPULATION AND SAMPLE DESIGN

The population for this study comprises non- listed manufacturing companies in Kenya; they comprise majorly micro, small and medium scale enterprises. This is based on the definitions of Louis and Annette, (2005) and Parker and Torres, (1994) that a micro-enterprise is defined as having no more than 10 employees; a small enterprise with 11-50 employees; and a medium enterprise with between 50 to 100 employees while large enterprises have over 100 employees. Forsaith and Fuller (1995) posit that many firms are neither small nor large. Such firms are not publicly listed, yet financial markets do not require personal guarantees for

firms' financing. Osteryoung and Newman (1992) describes such firm as medium sized firms .The contribution of Micro, Small and Medium Enterprises (MSMEs) to Kenyan economy cannot be overemphasized as the sector created 89.9%.of the total new jobs created in Kenya in 2009(Bunyasi, Bwisia & Namusonge, 2014) and contributed 59% of total Gross Domestic Product (RoK, 2009).

The study population includes one hundred and seventy-nine (179) non-listed manufacturing companies in Kenya. Since there is a high concentration of manufacturing companies in Industrial Area Nairobi – the capital city of the nation, the authors used industrial area as the study area and purposively sampled 56 companies. The purposive method was used to collect sample as a result of refusal of some companies to allow research.

Data collection

A well structured questionnaire was prepared to elicit data from the respondents and personally administered to the Management Accountants/ head of accounts/Finance units of the sampled companies and in some cases to the receptionists who latter handed the same to the appropriate units. The 56 sample size represents 31.28% of the population which is an appropriate size according to Mugenda and Mugenda (2003). A copy of the questionnaire was dropped with each company and 43 useful copies were completed and returned after some weeks.

The questionnaire was divided into eight parts. The first part consists of 4 questions that relates to the personal characteristics of the respondents in terms of academic and professional qualifications, specialization and position. The second parts contains 4 corporate characteristics including age of the company, type of product, number of products, type of market and firm size. The third part comprises questions on adoption of the new techniques ranging from no adoption to full adoption. No adoption was assigned 0, Desire to adopt but face difficulty was assigned 1, Desire to adopt but still in preparation stage was assigned 2, partial adoption was assigned 3 and full adoption was assigned 4. For the purpose of the hypotheses testing, one sample t-test was computed for the difference between the actual mean of adoption and the hypothesized mean of adoption which is equal 2.The fourth part asks question about perceived impact of the new techniques while the fifth part comprises question on the usage of traditional techniques. The usage was scaled from very often to never which were assigned 5 to 0 respectively. The sixth part contains question on the perceived relevance of the traditional techniques, the seventh parts constitutes questions on challenges faced when trying to adopt the techniques and the 8th parts is made up of questions on possible solutions. Descriptive statistics comprising mean, standard deviation and frequency were used and one sample t-test and Pearson correlation were also used for the purpose of hypotheses testing.

RESULTS

This section consists of both descriptive and inferential analysis.

Descriptive Analysis

From **the table 1**, only few respondents (16 =37%) of the respondents opine that the modern techniques are quite satisfactory, 15 (35) posit they are fairly satisfactory while 12(28%) say they are not satisfactory. However, all the respondents are satisfied with traditional

techniques (table 3). The prevailing factor preventing the adoption of new cost and management accounting techniques is lack of management support. This is followed by Lack of awareness of the modern techniques and preference to historical or financial information which rank 2nd and 3rd respectively(Table 2). Lack of suitable technological advancement that can match the application of the modern techniques and resistance to change are ranked 4th while extra cost involved, lack of specialist, non-applicability of the techniques and type of industry are very far from likely reason as they are ranked 8.5th while the type of industry is the most unlikely reason for low adoption as it appears at the bottom of the ladder. However, this findings contradict the findings of Saaydah and Khatatneh(2014) in Jordan where involvement of extra cost is the most prevailing reason, followed by lack of specialist ; and the findings of Mazumder(2007) in Bangladesh where Lack of awareness by the top management, more emphasis on financial information and involvement of extra costs are the first three prevailing difficulties.

As shown in **table 4,** five proposed solutions to the problem of adoptions were posed to respondents to assess; seminar and workshop on the importance and benefits of the techniques and awareness of those techniques were given equal and highest consideration. This was followed by emulating the competitors by adopting the techniques which the competitors have successfully applied. Getting up to date information from the professional bodies' newsletter and magazines was also considered relevant and the 4th in the list, while introduction of management audit more extensively was considered least.
Table 5 clearly points out that Financial Statement Analysis and Cash Flow Analysis are being used very often by the companies. Likewise, Cost Volume profit Analysis and Fund Flow Analysis are being used often times. Even though the other techniques are also being used, they are rarely used.

The status of new management techniques shown in **table 6** are discussed as follows: Table 6 clearly reveals that only Total quality Management, Customer Accounting, Through put Accounting and Backflush Accounting have been partially or fully adopted by Kenyan manufacturing companies since their mean values 2.79, 3.13, 2.23 and 2.14 respectively are greater than 2(the hypothesized mean). Their P-values which are also less than 0.05 indicate that the null hypotheses could be rejected which implies that they have been adopted by Kenyan Manufacturing companies.

Since the actual means of Balanced Score Card, Activity Based Costing, Life Cycle costing, Target Costing, Just in Time, Process Reengineering, Kaizen Costing, Benchmarking and value chain costing are 1.65, 1.16, 1.49, 1.4, 1.65, 1.37, 1.60 and 1.12 respectively, it means they have neither been partially nor fully adopted(their mean values are lower than 2 which is the hypothesized mean); though Kenyan manufacturing companies desire to adopt them, they have not been able to adopt them because of the difficulties concerning their adoption. Their p-values which are more than 0.05 also imply that the null hypothesis which assumes they have not been adopted could be accepted.

Table 5 and 6 clearly show that the current management accounting practices in Kenyan manufacturing companies are majorly traditional techniques while some of them combine the traditional techniques with some modern techniques. Financial Statement Analysis, Cash flow Analysis and Standard Costing are the prevailing traditional management accounting practices.

Inferential Analysis

Activity Based Costing was used as proxy for modern management accounting techniques. The reason for choosing ABC is because it is the most popular modern management accounting technique (Kaplan, 1986, Kaplan, Anderson & Steven, 2007). Out of the 43 companies that responded, only 11 of them have fully adopted ABC. The firm size based on the number of employees and their adoptions of ABC are shown in table 8. Out of the 43 firms that responded, 7(16%) are micro firms, 12(28%) are small firms, 15(35%) are medium size firms while 9(21%) are large firms. The correlation coefficient of 0.524 indicates a moderate and positive relationship between firm size and adoption of modern management accounting techniques. From table 8, it appears larger firms adopt modern management accounting techniques more than smaller firms.

DISCUSSION

The overall objective of this study is to investigate the adoption of modern cost and management accounting techniques. We tested the adoption of 13 modern management accounting techniques and found that only four of them have been either partially or fully adopted. The adopted modern techniques are Total Quality Management, Customer accounting, Throughput Accounting and Back Flush Accounting while the frequently used traditional techniques are Financial Statement Analysis and Cash Flow Analysis. This study reveals that the current management accounting practices in Kenyan manufacturing companies are majorly traditional while some of them combine traditional with some contemporary practices.

The low adoption of the new techniques could be linked to the various difficulties that confront the companies when attempting the adoption. The most prevailing difficulty is the lack of management support. This is followed by lack of awareness of the techniques, and preference for Financial/historical information. Contrary to the findings of Saaydah and Khatatneh(2014) and Mazumder(2007) where extra costs involved, lack of specialists, lack of awareness, preference to financial/ historical information are the prevailing difficulties, this study shows that the involvement of extra costs and lack of specialists are not perceived as the prevailing problems. However, this study lends credence to their study by confirming that Preference for financial information is perceived as one of the prevailing difficulties. This is evidenced by high rate of using Financial Statement Analysis and Cash flow Analysis.

We also found out that 12 companies which represents 28% of the respondents submit that the performance of the modern techniques is not satisfactory while 15(35%) perceive that their performance is fairly satisfactory and 16(37%) submit that their performance is very satisfactory. On the contrary, all the respondents submit that the performance of traditional techniques is satisfactory. It appears most respondents prefer traditional techniques to modern techniques. This could be linked to the financial and quantitative data which the traditional techniques provide and the challenges they face when trying to adopt the modern techniques.

The findings of this study establish a relationship between firm size and adoption of modern management accounting techniques. This study lends credence to the findings of Askarany and Smith, 2008, Ahmad and Zabri (2012), and Brown,(1981 that larger firms adopt technological innovation faster than small firms but contradicts the findings of Noteboom(1994) and Fieldman(1994) who posit that smaller firms are the prime sources of technological innovation.

CONCLUSION

In conclusion, this study finds out that contemporary management accounting techniques have not been adopted by Kenyan manufacturing companies; hence they currently practice traditional management accounting techniques with some of them combining the traditional techniques with the contemporary tools. The main reasons for low adoption of modern techniques include lack of management support, lack of awareness of the techniques, and preference for Financial/historical information. Evidence from this empirical study shows that a positive and moderate relationship exists between firm size and adoption of modern management accounting techniques as larger firms adopt the modern management accounting more than smaller firms. However, this study investigated the non- listed manufacturing companies only, therefore, caution should be taken while generalizing the outcome of this study.

RECOMMENDATIONS

Based on the findings from this study, we recommend Seminar/Workshop/Conferences and regular reading of professional News letter and Magazines for both staff and the management. We also suggest that management should emulate their competitors by adopting those techniques that have given their competitors edge if they are suitable to their establishments.

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APPENDIXES

Appendix 1

List of Tables

APPENDIX 2

Table 1: The Perceived Status of benefit of Modern Management Accounting Techniques

Status	Frequency	Percent	Valid Percent	Cumulative percent
Quite Satisfactory	16	37.2	37.2	37.2
Fairly Satisfactory	15	34.9	34.9	72.1
Unsatisfactory	12	27.9	27.9	100.0
Total	43	100.0	100.0	

Field Survey, 2015.

Table 2: Reasons for Low adoption of modern management accounting techniques

Reasons	Rank
Historical information is given more importance	3rd
Lack of Awareness	2nd
Modern techniques are not applicable	8.5th
Extra Cost involved	8.5th
Lack of specialists	8.5th
Lack of Technological advancement	5th
Lack of Management Support	1st
Lack of awareness of the benefits attached to the new techniques	4th
Resistance to Change	5.5th
Type of Product, No of Product and Type of Market	10th
Type of Industry	8.5th

Field Survey 2015

Table 3: The perceived status of the benefit of Traditional Techniques

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Quite Satisfactory	16	37.2	37.2	37.2
	Fairly Satisfactory	27	62.8	62.8	100.0
	Total	43	100.0	100.0	

Field Survey 2015

Table 4:Perceived Solution to low Adoption of Modern Techniques

Solution	**Rank**
Seminar and Workshop	1.5th
Awareness among top management	1.5th
Emulation of techniques being used by the competitors	3rd
Getting up-to-date information from the professional bodies	4th
Introducing Management Audit more extensively	5th

Field Survey 2015

Table 5: The Degree of Usage of Traditional Techniques

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Standard Costing	43	1	5	3.21	1.505
Variance Analysis	38	2	5	3.26	1.057
Absorption Costing	43	1	5	2.56	1.777
Marginal Costing	43	1	5	3.44	1.666
Financial Statement Analysis	43	3	5	4.77	.649
Fund Flow analysis	43	1	5	3.70	1.655
Cash flow analysis	43	4	5	4.60	.495
Cost Volume Profit Analysis	43	3	5	4.26	.978
Sensitivity Analysis	43	1	5	2.56	1.777
Simulation Analysis	39	1	5	2.38	1.786
Process costing	43	1	5	2.53	1.764
Budgetary control	43	1	5	3.12	1.815
Opportunity costing	43	1	5	2.53	1.764
Capital Budgeting techniques	43	1	5	3.02	1.739
Differential Costing	43	1	5	2.26	1.482
Valid N (listwise)	34				

Field Survey: 2015

Table 6: Adoption of Modern Cost and Management Accounting Techniques

SN	**Techniques**	**N**	**Mean**	**SD**	**DF**	**t**	**sig**
1	Balance Scorecard	43	1.16	1.7	42	3.2	0.061
2	Activity Based Costing	43	1.65	1.8	42	1.25	0.217
3	Total Quality Management	43	2.79	1.78	42	2.92	0.006
4	Life Cycle Costing	43	1.16	1.8	42	3.4	0.058
5	Target Costing	43	1.49	1.63	42	2.1	0.59
6	Throughput Accounting	43	2.23	1.78	42	0.03	0.04
7	Back Flush Accounting	43	2.14	1.72	42	0.534	0.48
8	Just in Time System	43	1.4	1.93	42	2.06	0.056
9	Kaizen Costing	43	1.37	1.83	42	2.26	0.079
10	Benchmarking	43	1.6	1.45	42	1.77	0.84
11	Value chain Costing	43	1.12	1.74	42	3.34	0.092
12	Customer Accounting	43	3.13	0.34	42	20.80	0.000

Field Survey 2015

Table 7: Relationship between Firm size and diffusion of Management Accounting Techniques

Correlations

		Activity Based Costing	Firm size
Activity Based Costing	Pearson Correlation	1	.524
	Sig. (2-tailed)		.476
	N	4	4
Firm size	Pearson Correlation	.524	1
	Sig. (2-tailed)	.476	
	N	4	4

Field Survey: 2015

Table 8: Firm Size and Adoption of ABC

Firm size	No of Employees	Frequency	Adoption of ABC	% of Firm adopting ABC
Micro	**1 – 10**	**7**	**1**	**1/7= 14.29%**
Small	**11 – 50**	**12**	**3**	**3/12= 25%**
Medium	**51- 100**	**15**	**4**	**4/15 = 26.7**
Large	**100 and above**	**9**	**3**	**3/9 = 33.3**
Total		**43**	**11**	

Field Survey: 2015