Odia, James

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Towards a Changing Role of Management Accounting and Management Accountants in Nigeria

James Odia[1]

Abstract: The paper examines the changing functions of management accounting and roles of management accountants from companies listed in the Nigerian Stock Exchange. The paper builds previous studies by Forsaith, Tilt and Xydias-Lobo (2003), Yazdifar and Tsamenyi (2005), and Copper and Dant (2009). To consider how management accountants view their past, present and future roles, tasks/ activities, the tools/techniques used by them as well as the factors and barriers responsible for a change and the barriers in Nigeria. Based on the survey of sixty-two (62) management accountants and the used of analysis of variance (ANOVA) for data analysis, the findings revealed that whereas there were small significant changes in the function of management accounting (planning, strategy formulation and decision making), the roles of management accountants, techniques and the activities or tasks performed by management accountants are likely to be unchanged in the future period. Specifically, management accounting will continue to place more emphasis on information provision, budgeting and controlling whereas management accountants will move away from performing the traditional roles of informational providers, bean counters and corporate police towards the modern roles of becoming business partners, analysts, internal consultants, problem solvers, strategy formulators, decision makers, team player and change agents in the organizations. The major drivers of change were advances in technology, globalization and competition.The implications of the findings for management accounting as a discipline, management accountants, accounting faculties and professional bodies in the training of management accountants as well as (top) management of organizations are also highlighted.

Keywords: Management accounting; management accountants; roles; management accounting change; tasks; tools/techniques; drivers; barriers

JEL Classification: M41

1. Introduction

Management accounting change (MAC) has been widely used as an expression of paradigm shift in the expectations of management accounting (Burns & Vaivio, 2001). It encompasses two types of development: the adoption of new tools and techniques which potentially enhance accounting practice on the one hand, and, on the other hand, change in the role that the accountant performs, towards acting more in an advisory capacity integral to managerial decision-making rather than solely as a provider of information. MAC has occurred with the creation and introduction of new management accounting techniques such as the activity based costing and the balanced scorecard (Hopper, Otley & Scapen, 2001) or with changes in the way managers use management accounting information generated by the traditional system (Wanderly, Meira & Miranda, 2008).The last three decades have witnessed a re-evaluation of management accounting practice in terms of developing new techniques and systems (Scapens, 1990; Abdul-Khalid, 2000). Management accounting involves the provision of information to management for the purpose of planning, controlling and decision making (Drury, 2005; Horgren et al, 2012). But the "new economy" (Bhimani, 2003) has influenced the role of management accounting (Szychta, 2002) to innovate ideas, technologies, strategies and modern

[1] Associate Professor, PhD, Department of Accounting, University of Benin, Nigeria, Corresponding author: odiajames@yahoo.com.

techniques to deal with the uncertain and dynamic environment. Hence Adel and Abobaker (2014) argue that management accountants must absorb and integrate new streams of knowledge and collaborate with other professionals to manage discontinuities of the new economy. In terms of the changing roles of management accountants, there are evidences of a shift from traditional control-type to business analysis and organizational consultancy (Evans, 1996; Burns & Yazdifar, 2001; Scapens, Ezzamel, Burns & Baldvinsdottir, 2003).

In the 1980s, several scholars identified the shortcomings of traditional management accounting system (Johnson & Kaplan, 1987). Their claims that management accounting has lost its relevance in supporting business decisions and control sparked off widespread discussions on the need for management accounting revolution among the academics, practitioners and business professionals (Voipio,2014). MAC has become a topical issue in recent years (Burns & Scapens, 2000). In fact there have been intense debates on whether management accounting has changed, has not changed, or should change (Innes & Mitchell, 1990; Burns & Vaivio, 2001; Haldma & Laats, 2002; Hoque, 2003; Waweru, Hoque & Uliana, 2004). The traditional roles of management accountants such as as “bean counters” and “corporate watch dogs” have been questioned by academics (Voipio, 2014). The role change of management accountants – often described as accountants becoming strategic business partners and trusted advisors - has generated considerable interest in the academic community as of late. Nevertheless, ambiguity remains, particularly around the question what exactly management accountant’s modern role. Moreover, management accountants have been urged to take on more managerial responsibilities (Parker, 2002; Siegel & Sorensen, 1999; Clinton & White,2012).This is because managers need specific forms of management accounting information to support their decision needs within increasingly environmental factors and to assist them monitor progress against strategies (Baines & Langfield-Smith, 2003).Today, management accountants are increasingly working in cross-functional teams serving their internal clients, outside of the traditional, centralized accounting department and there are arguments on understanding the changing roles of management accountants (Baldvinsdottir, Burns, Norreklit & Scapens, 2009a & b; De Loo, Verstegen & Swagerman, 2011).

Empirical studies have used surveys (Burns & Yazdifar, 2001; Siegel & Sorenson, 1999; Burns et al., 1999; Mathews, 1998) and case studies (Burns & Baldvinsdottir, 2005) and interviews (Byrne & Pierce, 2007) to provide evidence of the existence and broad nature of role change. This paper contributes to the debates on management accounting change and the changing roles of management accountants by examining the perceptions of management accountants from companies listed in the Nigerian Stock Exchange on the following four main issues as follows: (1) Management accounting practices (functions, tasks and tools/techniques performed by management accountants) in the past, present and the future;(2) The roles of management accountants (traditional and modern roles of management accountants in the past, present and future; (3) Factors driving changes in management accounting practices; and (4) Hindrances to management accounting change. The remainder of the paper is structured into four sections as follows. The next section presents the literature review, theoretical framework and hypotheses formulated for the study. The research method is described in section three; the results of the survey are then presented followed by a discussion in section four and the concluding remarks in section five.

2. Literature Review

Simon, Kozmetsky, Guetzkow and Tyndall (1954) first suggested three separate roles for accountants-score-keeping, attention directing and problem-solving. Moreover, Academic literature has concluded that the book-keeper model which prioritizes the production of periodic financial measures, best illustrates the traditional role of management accountants in organizations (Mouritsen, 1996; Friedman & Lyne, 1997; Järvenpää, 2001; Byrne & Pierce, 2007; Lambert & Sponem, 2012). The management accountant as the book-keeper archetype has been described with a number of labels such as: "watchdog" (Granlund & Lukka, 1998), "number cruncher" (Vaivio & Kokko, 2006; Byrne & Pierce, 2007), "bean counter" (Burns & Baldvinsdottir, 2005; Järvenpää, 2007) and n "corporate police" (Yazdifar & Tsamenyi, 2005). The bean counter role resembles closely that of a financial accountant (Pierce & O'Dea, 2003) with emphasis on reporting, control and compliant aspects of the accounting function (Byrne & Pierce, 2007).

But the management accountants are increasingly assuming the role of change agents in organizations. The new role of management accountants include: "modern business-oriented accountant" (Granlund & Lukka, 1998), "business partner" (Siegel & Sorenson, 1999); "internal business consultant" (Burns & Vaivio, 2001); "strategic management consultant" (Holtzman, 2004), or "hybrid accountant" (Burns & Baldvinsdottir, 2005).The accountant is closely involved in decision support and providing advice throughout the business, on both strategic and operational matters (Burns & Baldvinsdottir, 2005; Burnett, 2003; Howieson, 2003; Parker, 2001; Granlund & Lukka, 1998), applying specialist technical knowledge to the wider context of the business (Howieson, 2003) while employing a more forward-looking orientation (Byrne & Pierce, 2007). In fact, temporal orientation of management accountant's positions is towards the present and future, instead of emphasizing past and historical information (Granlund & Lukka, 1998; Järvenpää, 2007). This demands greater flexibility and timeliness from management accountants (Pierce & O'Dea, 2003).

Cooper and Dart (2009) find leadership, strategic financial planning and providing business advice were strongly rated but value-based management and "business partnering" (a salient totem of the new role type) appeared much lower in the ranking in the new roles of management accountants. As a result of the new or modern role, it is also envisaged that the accountant's working methods will change with an increased emphasis on collaboration outside the finance function and working in cross-functional teams (Burns & Baldvinsdottir, 2007, 2005; Byrne & Pierce, 2007; Howieson, 2003; Robinson, 1999; Granlund & Lukka, 1998). The tasks, skills were also expected to change .For instance, empirical evidence on specific tasks and activities undertaken by the management accountant indicates relatively weak adoption of the new role in some cases. For instance, Burns and Yazdifar (2001) report that among the top 10 tasks that were vitally important over the past five years for CIMA members, the five items most commonly cited (by more than 60% of the sample) are readily associated with the traditional roles such as "business performance evaluation", "cost/financial control", "interpreting/presenting management accounts". Only two items in the top ten ("profit improvement" and "implementing business strategy") are suggestive of the new role type. Siegel and Sorenson (1999) study in the US suggest some change in management accountant role as 41.8% of the sample cited "internal consulting" as one of the five activities occupying most of their time. However, only 24.7% included "long-term strategic planning" in this category and the most commonly cited item ("accounting systems and financial control", cited by 61.9%) is clearly associated with the traditional role.

In Burns and Yazdifar's (2001) study, 25% of respondents include "generation/creation of value" as one of the "top 10 tasks …vitally important … by the year 2005" and between 20% and 30% of the respondents in Siegel and Sorenson's (1999) study cite "internal consulting" and "long-term strategic planning" as occupying more of their time than they did five years previously. In a UK study Burns et al (1999) found that there had been a great change in the tasks conducted by management accountants, however, this change was primarily in the way management accounting information was used "rather than change in management accounting systems and technique. Russell, Siegel and Kulesza (1999) report on the findings of IMA study in the US which found that compared to five years ago, respondents spend more time performing the following tasks, and expect to continue to focus primarily on these activities: internal consulting, long term strategic planning, computer systems and operations, managing the accounting/finance function, process improvement and performance financial and economic analysis. They spend less time on: accounting systems and financial reporting, consolidations, managing the accounting and finance function, accounting policy, short- term budgeting process, project accounting, compliance reporting, cost accounting systems and tax compliance.

Kaplan (1998) maintained that companies like IBM, Intel and HP were adopting new management technologies like TQM and JIT but are still using traditional standard costing, direct labour costing and variance analysis designed many decades ago. Cooper (1996) and Anastas (1997) predicted that there would be a rise in the management accounting and more management accountants at the more senior levels. Again Jenkins (1998) has predicted management accounting in the future to shift from activity based management, environmental accounting, balanced score card , enterprise solutions and shared service centre to efficient data mining, integrating data channels, beyond budgeting etc. He sees management accountants becoming internal consultants, motivating others to change, finding ways to stay profitable and ahead of competition.

Cooper and Dart (2009) find no firm evidence of an association between globalization and the adoption of the new role type. According to Shields (1997), the potential change drivers are competition, technologies, organizational design and strategies. Innes and Mitchell (1990), Cobb et al 1995 and Kasirenun (2002) found a different set of circumstances linked with management accounting change, which they termed as follows: motivators (eg. competitive market, organizational structure, and production technology), catalysts (eg poor financial performance, loss of market share, and organizational change) and facilitators (eg. accounting staff resources, degree of autonomy, accountant's requirements). organizational and contextual factors such as increased market competition, changes in strategy, complexity of operations and transitions of the structure of operations impact the role expectations set for management accountants (Burns & Baldvinsdottir, 2005; Byrne & Pierce, 2007). Järvenpää (2001) argues that today's global competition and new customer needs have facilitated the move towards business oriented role for management accountants due to changed organizational priorities. Grandlund (2001) suggested that low financial performance may put economic pressure on the firm to change its MAS to increase performance. From literature, the hindrances to MAC include: lack of accounting employees, lack of competition resources, management stability, problems in management, lack of accounting power, being assured of meeting legal requirements, lack of independence from parent company, diverging goals of key individuals, organizational culture and existing reporting systems and inadequate information systems (Innes & Mitchell, 1990; Cobb et al 1995; Kasurinen, 2002; Arbar, 2011)

2.1. Theoretical Framework

This paper draws mainly on new institutional sociology (NIS) theory which has been adopted to conceptualize and explain management accounting practice (Covaleski & Dirsmith, 1988; Abernethy & Chua, 1996). NIS challenges conventional wisdom and prevailing research beliefs that assert that organizations are bounded, relatively autonomous and made up of rational actors (Abernethy & Chua, 1996). NIS views organizations as embedded within larger inter-organizational networks and cultural systems. This institutional environment not only influences the organization's input and output markets but also its beliefs, norms and historical traditions. The NIS has changed from continuity and stability to gain legitimacy to the study of non-isomorphic change. It acknowledges the importance of change through the strategic choices and behaviour of the human agency and institutional actors The change process is brought about by the interaction between the internal and external factors (Brignall & Modell, 2000; Collier, 2001; Modell, 2002; Tsamenyi, 2006). Greenwood and Hinings (1996) discuss the internal factors or intra-organizational dynamics (interests, values, power dependencies and capacity for action) at an individual organizational level which cause, stop or shape the process of change and external factors, at an organizational field level, affecting the change process.

2.2. Research Hypotheses

The following hypotheses are stated:

1. There's no significant difference in the functions of management accounting in the past, present and future;
2. There's no significant difference in the roles of management accountants in the past, present and future;
3. There's no significant difference in the tools/techniques used by management accountants accounting in the past, present and future;
4. There's no significant difference in the activities performed by management accountants in the past, present and future.

3. Methodology

Based on convenience sampling technique, the sampling population size was made up of 62 accountants from ten listed companies in Lagos State. The survey research method was employed for the study. The construction of the questionnaire which was used to collect information from the respondents was based on Yazdifar and Tsamenyi (2005), Copper and Dant (2009), and Forsaith, Tilt and Xydias-Lobo (2003). The questionnaire was divided into two parts. Part one contains questions relating to the bio-data of respondents; Part two was made of six sections. Section one comprises information on 20 functions of management accounting in the past, present and future. Section two dwells on 15 perceived traditional and modern roles of management accountants while section three contains information on 12 tools/techniques used by management accountants. Section four comprises 9 activities/tasks carried out by management accountants and Section five contains information pertaining to the factors driving change in the roles of management accountants. Section six examines the barriers affecting the changing roles of management accounting and accountants.

The respondents were required to indicate for instance the extent to which they perform a given role in the last five years, the present and their perceived role in the next five years based on a 5-scale Likert questionnaire from less important/strongly agree (1) to most important/strongly agree (5). A total of 110 copies of questionnaire were distributed, but 82 copies were retrieved but only 62 were used to for data analysis. This represents 56% response usable rate. The remaining 20 copies of retrieved were not properly filled and thus could not be used for analysis. The one-way analysis of variance (ANOVA) was used to test if there were significant differences in the functions of management accounting as well as the roles, tasks and techniques used by management accountants in the past, present and future.

4. Data Analysis

In this section the descriptive statistics of the respondents are shown as well as the analysis of the data from the questionnaire .The test of hypotheses were also performed.

4.1. Descriptive Statistics

Table 1. Bio-Data of Respondents

Category	**Freq (%)**	**Percentage (%)**		**Category**	**Freq (%)**	**Percentage (%)**
Gender				**Professional qualifications**		
Male	36	58.1		ACA	23	37.1
Female	26	41.9		ACCA	4	6.5
Total	**62**	**100**		ICAN	25	40.3
Marital Status				Others	1	1.6
Male	51	82.3		No response	9	14.5
Female	11	17.7		**Total**	**62**	**100**
Separated	-	-		**Organizational type**		
Total	**62**	**100**		Private sector	62	100
Age (years)				Public sector	-	-
Below 30	3	48.4		**Total**	**62**	**100**
31 -40	43	69.4		**Industry classification**		
41 -50	16	25.8		Manufacturing	29	46.8
Above 50	-	-		Financial services	22	35.5
Total	**62**	**100**		Community services	11	17.7
Educational qualification				**Total**	**62**	**100**
SSCE/GCE	-	-				
OND/NCE	-	-		**Number of employees**		
HND/BSC	62	100		0 -100	-	-
Total	**62**	**100**		101 -500	-	-
Work Experience				501 -1000	20	32.3
10 years	49	79.0		1000 above	42	67.7
11- 20 years	10	16.1		**Total**	**62**	**100**
Above 20	3	4.9				
Total	**62**	**100**				

Source: Field Survey (2015)

The table 1 shows the percentage of respondents as male (58.1%) while female (41.9%), and (82.3%) are married while (17.7%) single and (0%) separated, and are between the ages of below 30 (48.4%), 31-40 (69.4%), 41-50 (25.8%) and above 50 (0%) with SSCE/GCE (0%), OND/NCE(0%) and HND/BSC(100%), with experience at current organization as less than 10 years (79.0%), 11-20 years (16.1%), and above 20 as (48.4%). The percentage of respondents indicated their professional qualification as ACA (37.1%), ACCA (6.5%) and ICAN registered members (40.3%), while others (1.6%) and no response (14.5%).All respondents were from the private sector, with 46.8% from manufacturing industry, 35.5% from financial services and 17.7% from community services. The number of employees range were: 0-100 (0%), 101-500 (0%), 501-100 (32.3%) and above 1000 (67.7%).

4.2. Analyses of Questionnaire Responses and Test of Hypotheses

4.2.1. Functions of Management Accounting

Table 2 shows the functions of management accounting in the past, present and future based on the responses from the respondents in mean ranked order.

Table 2. Functions of Management Accounting

FUNCTIONS	PAST		PRESENT		FUTURE		Mean Differences	
	Agree/Mean N=62	Mean Rank	Agree/Mean N=62	Mean Rank	Agree/Mean N=62	Mean Rank	ANOVA (F-Value) (PvPvF)*	Remark on null H_1
Planning	67% (2.8)	13th	3.7	18th	4.3	11th	**2.869*****	**Reject**
Controlling	3.3	6th	**4.2**	**4th**	**4.7**	**1st**	1.197	Accept
Strategy formulation	2.6	16th	3.8	16th	4.4	7th	**2.176***	**Reject**
Decision making	2.3	20th	3.5	20th	4.0	18th	**2.352***	**Reject**
Information provision	**3.6**	**3rd**	**4.4**	**1st**	**4.7**	**1st**	1.021	Accept
Forecasting	**3.4**	**4th**	**4.4**	**1st**	**4.7**	**1st**	1.460	Accept
Budgeting	**3.7**	**2nd**	**4.3**	**3rd**	**4.7**	**1st**	0.742	Accept
Costing	**4.0**	**1st**	**4.1**	**5th**	4.0	18th	1.059	Accept
Investment fund	3.1	10th	4.0	7th	4.3	11th	0.052	Accept
Process improvement	3.0	11th	3.9	13th	4.1	16th	0.231	Accept
Accounting system and financial reporting	3.3	6th	4.0	7th	4.0	18th	0.321	Accept
Project evaluation	**3.4**	**4th**	4.0	7th	4.4	7th	0.053	Accept
Internal consulting	2.5	17th	4.0	7th	4.4	7th	0.239	Accept
Quality system and control	3.2	8th	4.0	7th	4.3	11th	0.234	Accept
Risk management	3.2	8th	3.9	13th	4.1	16th	0.539	Accept
Educating the organization	2.4	18th	3.9	13th	4.2	14th	0.192	Accept
Profit improvement	2.7	15th	4.0	7th	**4.5**	**5th**	0.483	Accept
Compliance reporting	3.0	11th	3.8	16th	4.2	14th	0.321	Accept
Environmental management	2.4	18th	3.7	18th	4.4	7th	0.538	Accept
Performance measurement and evaluation	2.8	13th	**4.1**	**5th**	**4.5**	**5th**	0.395	Accept
Hypothesis 1: All data	There is no significant change in the functions of management accounting						86.860***	**Reject**

Source: Field Survey (2015) Note: (P v P v F)= Past v Present v Future period*

Table 2 reveals that in the Past (last five years), the five most important functions (high emphasis) of management accounting were: Costing 1st, budgeting (2nd), information provision 3rd, project evaluation (4th), forecasting (4th) whereas internal consulting (17th), educating the organization (18th), environmental management (18th) and decision making (20th) were considered to be the least functions. In the Present, the five major functions of management accounting include: information provision (1^{st}), forecasting (1^{st}), budgeting (3^{rd}), controlling (4^{th}) and costing 5^{th}.The least or low emphasized functions of management accounting in the present are compliance reporting (16^{th}), strategy formulation (16^{th}), planning (18^{th}), environmental management 18^{th} and decision making. Although the traditional functions of management accounting such as information provision, budgeting and costing have not changed in the present, there is increasingly functions of management accounting regarding controlling, performance evaluation, profit improvement, investment fund quality control, internal consulting and project evaluation, educating the organization. There is still less emphasis of management accounting functions with respect to strategy formulation, environmental management and decision making. In the future (next five years), the major functions of management accounting would include: controlling, information provision, forecasting, budgeting, performance measurement and evaluation and profit improvement.

Table 3. Emphasis on management accounting functions in the past, present and future

	PAST	PRESENT	FUTURE
HIGH EMPHASIS	Costing, Budgeting, Information provision , Forecasting , Project evaluation	Information provision, Forecasting, Budgeting, Controlling, Costing, Performance measurement and evaluation	Controlling, Information provision Forecasting Budgeting Profit improvement Performance measurement and evaluation
MODERATE EMPHASIS	Compliance reporting, Controlling, Accounting system and financial reporting, Quality system and control, Risk management, Investment fund, Process improvement	Accounting system and financial reporting, Investment fund, internal consulting, Quality system and control, Profit improvement	Internal consulting Planning, Project evaluation Environmental management Quality system and control, Investment fund
LOW EMPHASIS	Planning, Performance measurement and evaluation, Profit improvement, Strategy formulation , Internal consulting , Educating the organization, Environmental management, Decision making	Process improvement, Risk management, Educating the organization, Compliance reporting, Planning, Environmental management, Planning, Decision making	Educating the organization, Compliance reporting, Risk management, Process improvement, Costing Accounting system and financial reporting, Decision making

Table 3 indicate that the main emphasis of management accounting will continue to be information provision. Other functions of high emphasis are: budgeting, forecasting, planning and controlling. Performance measurement and evaluation, profit improvement, project evaluation and internal consulting are also important functions in the present and future. Moreover, strategy formulation and environmental management will become a very important functions of management accounting in the future due to the moderate emphasis. However, costing ranked 1^{st} in the past but fall to 5^{th} in the present (5th) and 17^{th} in the future (17th) this shows that the function of costing will be performed less in the future. Also it could be observed that in the future, management accountants will be more concerned about managing the environment.

The ANOVA results in Table 2 show that there are significant differences in the management accounting functions of planning, strategic formulation and decision making. Also the post hoc test result shows that there are changes in the function of management accounting between the periods. Therefore, we reject null hypothesis (H_1) and accept the alternate hypothesis. This findings supports the study of Siegel and Sorensen (1999) which states that "management accounting now plays bigger roles in the organization".

4.3. Roles of Management Accountants

Table **4** below shows the roles of management accountants in the past, present and future

Table 4. Perceived Roles of Management Accountants

ROLES	PAST		PRESENT		FUTURE		Mean Differences	
	Agree/ Mean	**Mean Rank**	**Agree/ Mean**	**Mean Rank**	**Agree/ Mean**	**Mean Rank**	**ANOVA (F-Value)**	**Remark on null H_2**
Business analyst	2.3	13th	68% (3.9)	6th	**4.7**	**1st**	**4.665*****	**Reject**
Strategy formulator	2.5	10th	3.9	6th	4.4	7th	**2.066***	**Reject**
Internal consultant	2.3	13th	**4.0**	**3rd**	**4.7**	**1st**	**4.752*****	**Reject**
Change agent	2.6	9th	3.6	11th	4.5	6th	0.413	Accept
Information provider	**3.8**	**1st**	**4.3**	**1st**	4.1	10th	1.591	Accept
Teacher, guide or educator	2.7	8th	3.9	6th	4.1	10th	0.648	Accept
Decision makers	2.8	7th	3.8	10th	4.4	7th	0.704	Accept
Number crunchers	**3.7**	**2nd**	2.2	14th	2.0	11th	0038	Accept
Bean counters	**3.4**	**5th**	2.2	14th	1.7	13th	0.145	Accept
Score keepers	**3.6**	**4rd**	2.3	13th	2.0	15th	0.500	Accept
Corporate police	**3.7**	**2nd**	2.5	12th	2.9	13th	0.195	Accept
Business advocates	2.4	12th	3.9	6th	4.3	12th	0.450	Accept
Financial analysts	2.5	9th	**4.0**	**3rd**	**4.7**	**1st**	1.033	Accept
Business partners	2.1	15th	**4.0**	**3rd**	**4.6**	**5th**	1.779	Accept
Problem solvers	3.0	6th	**4.1**	**2nd**	**4.7**	**1st**	0.675	Accept
Hypothesis 2	There is no significant mean difference in the roles of management accountants						2.678***	**Reject**

*Source: Field Survey (2015)*p<0.10, ** p<0.05, *** p<0.01*

In the past, management accountants performed more the traditional roles of information provider (1st), number cruncher (2nd), corporate police (2nd), score keeper (4th) and bean counter 5th and less of the modern roles as change agent (9th), financial analyst (9th), strategy formulator (10th), business advocate (12th), business analyst (13th), internal consultant (13th) and business partner (15th). However, in the present period, apart from the being information provider which is the most important role with a mean of 4.3 (1st), the management accountants have also assumed other modern roles such as problem solvers (2nd), financial analysts (3rd), business partners (3rd), internal consultants (3rd), business advocates (6th), strategy formulator and business analysts (6th).The traditional roles of management accountants such as: number cruncher and bean counter are performed less by management accountants in the present and future periods. In the future period, the traditional roles are ranked as follows: information provider (10th). number cruncher (11th) and bean counter (13th).It is significant to note that information provider- a traditional role- is ranked topmost in the present being the core of the of management accountants' role. Table 5 shows that in the future less of the number crunching role will be performed by management accountants. The role of business analyst ranked 13th in the past, but in the present (6th) and future (1st) indicates that in the future management accountants will perform more the role of business analyst compared to the past and present periods. This supports the findings of Burns et al (1999) which reveal that "the title of management accountants in many organizations has changed to a broader job title of "business analyst" in a survey of UK companies.

The ANOVA results show that there are significant differences for the management accountants 'role of business analysts, strategy formulator and internal consultants. Therefore we reject null hypothesis two (H_2) and accept alternate hypothesis. This indicates that there is a significant mean difference in the roles of management accountant in the past, present and future. It can therefore be concluded that the traditional roles performed by management accountants has changed significantly towards the modern roles. This result supports the findings of Burns and Baldvinsodirttir (2005), Cooper (1996) Granlund and Lukka (1997), Lambert and Sponem (2012) and Jarvenpaa (2001) that there has been a shift in the roles of management accountants from being information providers, number crunchers and bean counters to business- oriented roles.

Table 5. Roles of Management accountants in the Past, Present and Future

	PAST	PRESENT	**FUTURE**
MOST PROMINENT ROLES	Information provider Number crunchers Corporate police Score keepers Bean counters	Information provider Problem solvers Financial analysts Business partners Internal consultant	Internal consultant Business analyst Financial analysts Problem solvers
MODERATE ROLES	Problem solvers Decision makers Teacher, guide or educator Financial analysts Strategy formulator	Business analyst Strategy formulator Teacher, guide or educator Business advocates	Change agent Strategy formulator Decision makers
LEAST ROLES	Business advocates Business analyst Internal consultant Business partners Change agents	Decision makers Change agent Corporate police Score keepers Bean counters	Information provider Teacher, guide or educator Number crunchers Beans counters Corporate police Score keepers

4.4. Tools/Techniques used by Management Accountants

Table 6 shows the ranking of tools/techniques used by management accountants in the order of importance in the past, present and future.

Table 6. Tools/Techniques Used by Management Accountants

TOOLS/ TECHNIQUES	PAST		PRESENT		FUTURE		**Mean Differences**	
	Mean	**Mean Ranking**	**Mean**	**Mean Ranking**	Mean	Mean Ranking	**ANOVA (F-Value)**	**Remark on null H_3**
Absorption costing	2.9	6th	3.4	11th	4.3	4th	**3.425****	**Reject**
Budgeting for planning and control	3.2	1st	4.3	1st	4.6	2nd	**3.478****	**Reject**
Variance analysis	3.0	3rd	4.2	2nd	4.6	2nd	0.751	Accept
Capital budgeting	3.1	2nd	4.2	2nd	4.8	1st	0.805	Acce
Variable costing	2.3	10th	3.7	4th	4.3	4rd	**2.190***	**Reject**
Balanced score card	2.5	8th	3.5	6th	4.3	4rd	**2.807****	**Reject**
Customer satisfaction measures	2.1	11th	3.5	6th	4.0	10th	6.445***	Reject
ABC and management	3.0	3rd	3.6	5th	4.0	10th	**3.506*****	**Reject**
Shareholders value analysis	2.6	7th	3.5	6th	3.8	12th	0.174	Accept
Benchmarking	2.9	4th	3.5	6th	4.1	9th	0.553	Accept
Total quality Management	2.4	9th	3.4	11th	4.3	4th	1.450	Accept
Just-In-Time	3.0	3rd	3.5	6th	4.3	4th	0688	Accept
Hypothesis 3	There is no significant mean differences in the tools/ techniques used by management accountants						2.664***	Reject

*Source: Field Survey (2015)*p<0.10, ** p<0.05, *** p<0.01*

Table 6, the tools/techniques used by management accountants in the past are : budgeting for planning and control ranked 1st, capital budgeting 2nd, variance analysis and activity based costing 3rd, then shareholders value analysis ranked 7th.The tools or techniques being used in the present are: budgeting for planning and control ranked 1st, capital budgeting and variance analysis ranked 2nd, variable costing 4th, activity based costing ranked 5th, and shareholders' value analysis ranked 6th.The Future tools and techniques include: budgeting for planning and control and capital budgeting ranked 1st, variance analysis ranked 2nd, budgeting for planning and control ,activity based costing ranked 10th, and shareholders' value analysis ranked 12th. These results indicate that the capital budgeting, variance analysis and budgeting for planning and control will continue to be used extensively even in the future. The results also reveal that while activity based costing and shareholders' value analysis will be used moderately in the future, the balanced score, total quality management and just in time will be of high emphasis. This result is consistent with the findings of Forsaith Tilt and Xydias-Lobo (2003) but does not support the future predicted by Jenkins (1998).

With regard to hypothesis three (H3), there are indications that the tools/techniques used by management accountants have changed significantly over time. For instance, the ANOVA results indicate significant differences for customers' satisfaction measures, balanced score card, variable costing, activity based costing/management, budget for planning and control and absorption costing. Therefore, hypothesis three ($H_{3)}$ of no significant difference is rejected. This implies that the tools/ techniques used by management accountants are bound to change significantly in the future. The findings support the report of Sharma (1998) "that new tools/techniques will assume increased importance in the future".

Table 7. Emphasis on tools\techniques used by Management Accountants

EMPHASIS\EXTENT	PAST	PRESENT	FUTURE
HIGH EXTENT	Budgeting for planning and control Capital budgeting Variance analysis ABC/ABM Just-In-Time Benchmarking	Budgeting for planning and control Capital budgeting Variance analysis Variable costing	Capital budgeting Budgeting for planning and control Variance analysis Variable costing Balanced score card Total quality Management Just-In-Time Absorption costing
MODERARE EXTENT	Absorption costing Shareholders value analysis Balanced score card Total quality Management Variable costing	ABC and management Benchmarking Shareholders value analysis Customer satisfaction measures	Benchmarking Customer satisfaction measures ABC and management
LOW EXTENT	Customer satisfaction measures	Absorption costing Total quality Management	Shareholders value analysis

4.5. Activities/Tasks Undertaken by Management Accountants

Table 8 below shows the ranking of the activities undertaken by management accountants in the past, present and future.

Table 8. Activities/Tasks undertaken by Management Accountants

ACTIVITIES/ TASKS	PAST		PRESENT		FUTURE		Mean Differences	
	Mean	Mean Rank	Mean	Mean Rank	Mean	Mean Rank	ANOVA (F-Value)	Remark on null H_4
External financing	2.2	6th	3.7	5th	4.0	8th	0.420	Accept
Capital budgeting	3.0	1st	4.0	1st	4.5	1st	0.879	Accept
Strategic management accounting	2.5	4th	3.9	2nd	4.5	1st	0.828	Accept
Process improvement	2.2	6th	3.8	4th	4.2	7th	1.406	Accept
Internal consulting	1.8	8th	3.7	5th	4.5	1st	0.479	Accept
Compliance reporting	2.6	3rd	3.7	5th	4.0	8th	1.174	Accept
Environmental management	2.0	7th	3.5	8th	4.4	5th	0.226	Accept
Performance management	2.9	2nd	3.9	2nd	4.5	1st	0.348	Accept
Merger, acquisition and divesture	2.5	4th	3.5	8th	4.4	5th	0.060	Accept
Hypothesis 4	There is no significant mean difference in the activities performed by management accountants						0.389	Accept

*Source: Field Survey (2015)*p<0.10, ** p<0.05, *** p<0.01*

Results from Table 8 show the mean ranking in the Past as: capital budgeting (1st), performance management 2nd, compliance reporting 3rd, strategic management accounting 4th, environmental management 7th and internal consulting 8th. In the Present period, capital budgeting is ranked 1st, strategic management accounting and performance management 2nd, internal consulting 5th and environmental management 8th. A look at the Future period shows that: capital budgeting, strategic management accounting, internal consulting and performance management are ranked 1st with mean of 4.5; then environmental management 5th and process improvement 7th. The results indicates that the activity/ task of capital budgeting and strategic management accounting will continue to be of relevance even in the future as it ranks topmost in all the periods. Moreover, management accountants will perform more of strategic management accounting, internal consulting and environmental management accounting in the future compared to the past and present period.

Table 9. Tasks/Activities performed by management Accountants

	PAST	PRESENT	FUTURE
MAJOR ACTIVITIES	Capital budgeting	Capital budgeting Strategic management accounting Performance management Process improvement	Capital budgeting Internal consulting Performance management Strategic management accounting Environmental management Merger, acquisition and divesture Process improvement Compliance reporting
MODERATE ACTIVITIES	Performance management Compliance reporting Merger, acquisition and divesture	External financing Internal consulting Compliance reporting Environmental management Merger, acquisition and divesture	
LOW ACTIVITIES	External financing, Process improvement Environmental management Internal consulting		

Tables 9 indicate that activities/tasks performed by management accountants like capital budgeting, performance management and strategic management traverse all periods. The ANOVA results show that there is no significant difference in the activities/tasks performed by management accountants in the past. This implies that the activities/tasks performed by management accountants are likely to remain unchanged in the present as well as in the future. This finding contradicts the results of Barbera (1996), Byrne and Pierce (2007), and Javenpa (2007) that management accountants are moving from the performance of routine activities to more analytical activities.

4.6. Factors that Trigger Change in Management Accounting Practices

Table 10 shows the extent to which change drivers exert influence on the changing roles of management accounting and management accountants. Table 10 ranks advances in information technology and advances in production technology as 1st, followed by globalization and competition, organizational structure and accounting software development (3rd), size (7th). The results show that all change drivers influence the changing roles of management accounting and management accountants (Innes & Mitchell 1990; Scapens, et al., 2003; Yazidifar & Tsamenyi, 2005). However some of the factors exert higher influence compared to the others. Environmental factors tend to exert greater influence on the roles of management accounting and management accountants compared to organizational factors with advances in information and production technologies ranked topmost followed by globalization and competition, then organizational factors such as: organization size, structure and strategy. This supports the findings of Barbera (1996), Chenhall and Langfield-Smith (1998), and Siegel and Sorensen (1999).

Table 10. Factors Driving Change in Management Accounting Practice and Management Accountants Roles

CHANGE DRIVERS	Frequency (%)			Mean	Mean Ranking
	Strongly agree	Agree	Disagree		
Globalization	49 (79.0)	10 (16.1)	3 (4.9)	2.7	3rd
Competition	45 (72.6)	17 (27.4)	0(0)	2.7	3rd
Advances in information technology	54 (87.1)	8 (12.9)	0(0)	2.9	1st
Advances in production technology	54 (87.1)	8 (12.9)	0(0)	2.9	1st
Organizational structure	40 (64.5)	20 (32.3)	2 (3.2)	2.7	3th
Organizational size	42 (67.7)	20 (32.3)	0(0)	2.6	7th
Accounting software development	25 (40.3)	24 (38.7)	13 (21.0)	2.7	3rd
Management styles	25 (40.3)	32 (51.6)	5 (8.1)	2.2	11th
Government regulation	26 (41.9)	23 (37.1)	13 (21.0)	2.3	10th
Organization strategy	36 (58.1)	26 (41.9)	0(0)	2.2	11th
Management information needs	34 (54.8)	23 (37.1)	5 (8.1)	2.6	7th
Key personnel	36 (58.1)	22(35.5)	4 (6.4)	2.5	9th

Source: Field Survey (2015) Note percentage of responses are in brackets

4.7. Barriers Affecting the Changing Roles of Management Accounting and Management Accountants

Table 11 shows the barriers affecting the changing roles of management accounting and management accountants.

Table 11. Barriers Affecting Management Accounting and Management Accountants Roles

BARRIERS	Frequency (%)			Mean	Ranking
	Strongly agree	Agree	Disagree		
Role misalignment	50 (80.6)*	8 (12.9)	4 (6.5)	2.7	2nd
Employee dissatisfaction	42 (67.7)	2 (3.2)	18 (29.0)	2.4	5th
Organizational culture	45 (72.6)	17 (27.4)	0(0)	2.7	2nd
Ignorance of the scope of activities by management accountants	47 (75.8)	15 (24.2)	0(0)	2.8	1st
Demand for traditional roles	39 (62.9)	7 (11.3)	16 (25.8)	2.4	5th
Role conflict	35 (56.5)	8 (12.9)	19 (30.6)	2.3	8th
Internal competition	22 (35.5)	19 (30.6)	21 (33.9)	2.0	9th
Inability of management accountants and organization to adjust to change	38 (61.3)	10 (16.1)	14 (22.6)	2.4	5th
Insufficient skill set	39 (62.9)	15 (24.2)	8 (12.9)	2.5	4th

*Source: Field Survey (2015) Note *is percentage of responses*

The results in Table 11 indicate that both internal and external barriers affect the roles of management accounting and management accountants. The foremost barrier is the ignorance of scope of activities by management accountants. This is an internal barrier that supports the findings of Cobb et al (1995). The other barriers are: role misalignment and organizational culture, insufficient skills, employee's dissatisfaction, demand for traditional roles and inability of organization and management accountants to adjust to change. These findings support Kasurinen (2002), Mouritsen (1996) and, Innes and Mitchell (1990).

5. Conclusion and Recommendations

The paper examines the changing roles of management accounting and management accountants in Nigerian listed companies. It was found that although the functions of management accounting appear to have changed, information provision, controlling, forecasting, budgeting, profit improvement and performance measurement and evaluation still predominates now and in the future. Moreover, the roles of management accountants have changed, unlike in the past where they were referred to as "number crunchers" or ones who perform complex, lengthy or numerous calculations, and "bean counters" or ones who place emphasis on controlling expenditures and budgets with exclusion to other functions. But today and in the future, management accountants will perform more of the modern roles of being "business analyst" one who defines the needs of an organization and recommends solutions that will be of value to stakeholders, "internal consultants" one who provides information and serves in advisory capacity to an organization.

In order for an organization to be successful in changing environment of business, the function/roles of management accounting and management accountants from the traditional to the modern roles is unavoidable. Organizations should therefore wake-up to the relevance of management accountants not just as information providers but also as decision makers in order for the organization to maintain its existence, survival and sustainability in the changing business world. Therefore, to ensure that management accountants take up their new roles, the following recommendations are put forward:

1. Management accountants must learn to recognize, accept, accommodate, adjust to, facilitate and support changes in their roles. They must move away from being beans counters and number crunchers to becoming, designer of the organization's critical future (Adel et al, 2014), decision makers as well as managers of organization discontinuities through aligning and collaborating competencies.

2. Management accountants should become part of their organization value-added team, participate in strategy formulation, translate strategic intent and capabilities into operational and managerial measures that would enhance their organizational performance and productivity (Kaplan, 1994).

3. Management accountants should seek to develop skills that will enable them adapt to their modern roles. For instance to act in the capacity of being business partners, analysts, strategy formulators and internal consultants they must acquire knowledge on operational issues and strategy management and able to link them to management accounting (Goretzki Strauss & Weber, 2013)

4. The barriers that cause sub-optimal functionality in the roles of management accountants such as the ignorance of the scope of activities by management accountants must be properly managed through workshops, seminars to tutor them on the changing roles.

5. Top management of organization must understand and see management accountants in the light of their new roles-as decision makers, leaders, and change agents and ensure that the culture and activities of the organization promote this role change (Byrne & Pierce, 2007).

6. Accounting faculties and professional accounting bodies should be forward looking in designing their curricula for the training of management accountants for the future who, in addition to being information providers, can be leaders, analysts, decision makers, internal consultants, strategy formulators and change agents. Their education and training must be broad-based to make them the analyzers, interpreters, communicator, a generalist and team player (Flegm, 1996). Moreover, current emphasis should be attached to the managerial aspects of the management accounting discipline (Mia, nd).

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