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Predictors of the Effectiveness of Management Accounting Function in Nigerian Firms

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Abstract

This study evaluated the influence of six contingent variables – firm size, age, sector, existence of management accounting department, affiliation to foreign entity and public-quotation status – on the effectiveness of management accounting function in Nigerian firms. Stratified random sampling technique was deployed to obtain the views of 131 Finance Officers with oversight role across major sectors of the Nigerian economy. Statistical tools used in analysis were descriptive statistics, factor-analysis, Kruskal Wallis Test and binary logistic regression. Whilst detecting that contextual variables such as size, age, sector, existence of management accounting department and public-quotation status significantly affect the effectiveness of the management accounting function, affiliation to foreign entity was found not to exert significant influence. The strongest predictor of the likelihood of operating a very effective management accounting function was the existence of management accounting department. Organisations are encouraged to have separate management accounting department because of additional benefits imbued by specialist management accounting skills.

Keywords: Chartered Global Management Accountants (CGMA); global management accounting principles; management accounting function; performance management; strategy; strategic management accounting.

JEL classification: M10; M41.

1. INTRODUCTION

In this era of globalisation, the roles of management accountants have evolved from merely keeping records of costs incurred in the factory, to partaking in strategy formulation, implementation and appraisal (Kaplan and Norton, 2000; Horngren et al., 2003; Roslender and Hart, 2003; Carmona et al., 2004; Burns and Baldvinsdotti, 2005; Naranjo-Gil and Hartmann, 2006; Burns and Scapens, 2010). As it is crucial for the management accounting function to adequately support the organisation, the management accounting role has growingly advanced with the progression in size and diversity of activities in organisations. In seeking to achieve the aim of aiding managerial functions, the management accounting role is multifaceted, cutting across various functional areas in the organisation (Drury, 2005;

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Yazdifar and Tsamenyi, 2005; Shank, 2007; Bamber et al., 2008; Mishra, 2011). The multifariousness of the management accounting function is heightened by the many activities undertaken by management accountants such as cost management, treasury, pricing, risk management, internal control, investment appraisal, etcetera (CIMA, 2008; CIMA, 2014; CGMA, 2015). According to Sunarni (2013), management accountants perform roles such as cost controllers, budget preparers, financial analysts, business analysts, and business partners. Management accounting as a functional area in accounting has also made inroads to other disciplines such as finance, organisational behaviour, operations research, management, psychology, sociology, amongst others.

The researching of management accounting function has waxed and waned in developed countries, but the subject is still under-researched in developing countries (Ajibolade, 2010; Etim and Agara, 2011). For example, in Nigeria, management accounting function has been tersely investigated under certain subthemes, including but not limited to; the application of cost and management accounting techniques (Adelegan, 2001; Ajibolade, 2010; Etim and Agara, 2011; Akenbor and Okoye, 2012; Achimugu and Ocheni, 2015); management accounting systems (Ajibolade et al., 2010; Ajibolade, 2013b; Adejuyigbe et al., 2013); and roles of management accountants (Alao, 2014). Mainstream management accounting researchers in Nigeria – for example, Ajibolade (2010); Etim and Agara (2011); Akenbor and Okoye (2012); Ajibolade (2013a); Toluwase and Oyewo (2014) – have worryingly admitted to the paucity of management accounting research in the Nigerian context. For example, Ajibolade (2010) submitted that researches on new management accounting techniques in advanced countries abound, while little attention has been paid to their application in Nigeria. In a study by Etim and Agara (2011) on the adoption of balanced score card (a strategic management accounting technique), it was observed that there is a gamut of studies on the adoption of balanced score card in advanced countries, with little references made to its implementation in developing countries like Nigeria - this view was also corroborated by Ajibolade and Oyewo (2017) assessment of performance disclosure by Nigerian banks using the balanced scorecard. Akenbor and Okoye (2012) posited that despite the publicity strategic management accounting has received as a new direction that gives competitive edge to organisations, dearth of empirical studies on its adoption still persists in Nigeria.

Whilst prior studies in Nigeria examined specific subtopics relating to the management accounting function non-holistically, it seems few studies – to the researcher's knowledge – have conceptually integrated these elements to assess the effectiveness of management accounting function in Nigeria. Worse still, while the management accounting function transcends the application of management accounting techniques to operational, tactical and strategic issues in organisations – which has been the primary focus of most studies in Nigeria (for example, Adelegan, 2001; Achimugu and Ocheni, 2015) – it appears there is no study that has assessed the effectiveness of management accounting function in the Nigerian context, as suggested by the Global Management Accounting Principles (GMAP) since its introduction in 2015 by the Chartered Global Management Accountants (CGMA), from the angle of the adequacy of management accounting skills, effectiveness of the organisational performance management, and the activities in the management accounting function.

As a result, the objectives of the study were to: (i) evaluate the effectiveness of management accounting function in Nigerian firms; (ii) establish the influence of contingent variables on the effectiveness of management accounting function in Nigerian firms; (iii)

assess the likelihood of having a very effective management accounting function across contingent variables in Nigerian companies.

From the analysis of data obtained from surveyed companies, it seems that the management accounting function in Nigerian firms is effective. It was observed that selected contingent variables significantly influence the effectiveness of management accounting function. Further, large firms, firms with specialist skills, and publicly-quoted firms are more likely to have a very effective management accounting function.

This study contributes to knowledge in that it utilises the paradigm provided by CGMA's (2014, 2015) framework to assess the effectiveness of management accounting function in relation to selected contingent variables. In the researcher's opinion, the CGMA Global Management Accounting Principles (GMAP) is a robust and comprehensive framework for assessing management accounting function in that it combines the adequacy of management accounting skills, frequency of performing critical management accounting activities and organisational performance management to evaluate management accounting systems unlike the conventional approach used in prior studies, before the introduction of the GMAP, in which the emphasis was only on the application of management accounting techniques.

As the GMAP has global relevance, and considering that this study focused on Nigerian companies, studies on management accounting function from other jurisdictions could be carried out, using the CGMA conceptual framework, under subthemes ranging from the influence of contextual variables on management accounting function (as done in this study), the interaction between the effectiveness of management accounting function and organisational performance, to the influence of isomorphic factors on management accounting function, and value-addition stemming from an effective of management accounting function, amongst other areas of research. The study also contributes to management accounting literature in that it operationalises some elements of the CGMA (2014, 2015) Global Management Accounting Principles. To state it more generally, it is one of the earliest studies conducted to evaluate management accounting function from the standpoint of the CGMA, subsequent to the launching of the Global Management Accounting Principles in 2015. The CGMA represents the alliance between two of the world's prestigious accounting bodies – The American Institute of Certified Professional Accountants (AICPA) and The Chartered Institute of Management Accountants (CIMA) – for the purpose of elevating and building recognition of the management accounting profession. To this end, future studies seeking to use the CGMA's (2015) approach to assess management accounting or finance function may consider adopting or adapting the measures used in this study.

The rest of the paper is divided into five parts. Section 2 is on literature review and development of research hypotheses. While section 3 covers explanation of the research method adopted, sections 4 and 5 focus on analysis and discussion of findings respectively. The paper is concluded in section 6.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Elements of an effective management accounting function

The Global Management Accounting Principles (hereinafter, GMAP), jointly developed and endorsed by The American Institute of Certified Professional Accountants (AICPA) and

The Chartered Institute of Management Accountants (CIMA), pointed that an effective management accounting function is made up of people, principles, performance and practices.

People as an element of an effective management accounting function, with reference to the GMAP framework, refers to the requisite skills of management accountants such as core accounting and finance skills, business acumen skills, people skills and leadership skills (CGMA, 2015; CIMA, 2015 professional qualification syllabus). The inclusion of people as an element of an effective management accounting function is based on the criterion that the management accounting function is made up of skilled and competent people, who apply the principles to maintain and improve an organisation's performance management system through the areas of practice they undertake. Burns and Yazdifar (2001) argued that the broadening role of management accountants is underpinned by the possession of both analytical and social skills. To Byrne and Pierce (2007), a number of individual traits – including business knowledge, interpersonal and communication skills, Information Technology (IT) skills, technical skills, and flexibility – help explain management accountants' roles. Järvenpää (2007) finding that management accountants belong to the management accounting function and that their individual positioning and role are determined, to a large extent, by the positioning of the management accounting function within the organisation reiterates the importance of people as an essential element of an effective management accounting function.

Organisational performance management refers to translating organisation goals to results; it involves ensuring that the activities of a firm are directed towards achieving the set objectives (Faucett and Kleiner, 1994). Performance management focuses not only on individual employees but also on departments, processes and the organisation as a whole (Boland and Fowler, 2000; Wilson, 2000). Since people work in organisations for the purpose of achieving organisational goals, a performance management system links people's efforts to the organisation's goals and objectives (Salem, 2003; Toluwase and Oyewo, 2014). CGMA (2014) postulated the following as the steps to performance management – strategy formulation, development of plans, execution of plans, reviewing of results; and refining of initiatives and processes. Organisational Performance Management is a vital element of an effective management accounting function because management accounting provides information that will help the organisation transform its goals to results.

The practice area refers to the activities of the management accounting function. Fourteen (14) key practice areas were identified in the GMAP, including; Cost transformation & management; External reporting; Financial strategy; Internal control; Investment appraisal; Management & budgetary control; Price, discount and product decisions; Project management; Regulatory adherence & compliance; Resource management; Risk management; Strategic tax management; Treasury & cash management; and Internal audit – see CGMA (2014; 2015).

The GMAP is underpinned by four pillars (i) communication provides insight that is influential; (ii) information is relevant; (iii) stewardship builds trust and; (iv) impact of value is analysed. It is the application of the GMAP to people, performance and practice areas that produces an effective management accounting system. CGMA (2015, p. 6) expressed it thus: "Assessing the skills, competencies, performance management and practices of an organisation's current management accounting function, relative to the Principles, provides an indication of how well the current function is meeting the organisation's needs".

2.2 Contingent factors affecting the effectiveness of management accounting function

By invoking the contingency theory, studies in management accounting have explained the influence of contingent (internal and external) variables on management accounting practices and management control systems (for example, Khandwalla, 1972; Gordon and Miller, 1976; Otley, 1980; Hofstede, 1983; Reid and Smith, 2000; Chenhall, 2003; Islam and Hu, 2012; Ahmad and Zabri, 2015; Martin et al., 2015; Oboh and Ajibolade, 2017).

The contingency theory takes it roots from the contingency or situational approach to management. The contingency approach to management posits that the managerial style to be used in a scenario is dependent on the prevailing circumstances in the environment, as factors that interplay in an environment varies among jurisdictions (Boddy, 2012; Mullins and Christy, 2013). The contingency theory states that management accounting practices will be influenced by organisational and environmental factors, which varies from one entity to the other.

Contingent factors have been identified to include technology, strategy, size, structure, environmental uncertainty, technology, market competition, resources, age, industry and culture, among others (Islam and Hu, 2012; Al-Mawali, 2015; Ajibolade and Oyewo, 2017). Ahid and Augustine (2012, p. 51) stated that "the roles of management accountants vary from one organisation to the next…the roles are depending on the size of organisation, the type of organisation, culture, industry and other factors: on the other hand, these factors are different from time to time".

Granlund and Lukka (1998a, 1998b) asserted that environment and organisation structure influence the work carried out by management accountants and the impact they have on decision-making. Ajibolade (2013b) study on the factors that influence the choice of management accounting system designs by manufacturing organisations in Nigeria concluded that institutional and organisational variables influence the choice of management accounting practice in Nigerian firms. CIMA (2009) management accounting survey documented the influence of organisation size on the use of management accounting tools; the study observed that while larger organisations are more likely to use each tool, there were some areas where organisation size did not seem to influence usage as per strategic tools and, to a lesser extent, budgeting tools (CIMA, 2009). CGMA (2015) noted that the practice of management accounting varies across different organisations. The CIMA (2009) Management Accounting Survey found that; the availability of suitably qualified finance personnel in finance department; software issues such as outdated, inflexible or poorly integrated systems (requiring manual reconciliations or other interventions to create reports) and lack of strategic vision for IT affected the intensity of applying the management accounting tools among firms across different sizes, industry, and location. Järvenpää (2007), using a case-study approach, concluded that corporate culture affects and facilitates the management accounting function, as accounting practices are woven into an organisation's cultural fabric and into a broad range of diverse practices that make up its business orientation. After studying Jordanian listed firms, Al-Mawali (2015) concluded that perceived environmental uncertainty had a significant impact on the intensity of usage of strategic management accounting techniques.

As Islam and Hu (2012) suggested that the contextual variables in management accounting are many, the contingent variables under consideration in this paper are: firm size, firm age, sector, presence of specialist skills (existence of management accounting department), affiliation to foreign entity and public-quotation status. Relating the

contingency theory to the subject of management accounting function would imply that the level of effectiveness of the management accounting function would alter over firm size, age, public-quotation status, presence (or absence) of specialist management accounting skills, as well as the sector where firms operate. In line with other studies that have applied the contingency theory, the contingency theory is contextualised to this study by hypothesizing that:

H_1: *Contingent variables will significantly influence the extent of effectiveness observed in the management accounting function of Nigerian firms.*

2.3 Predictors of the effectiveness level observed in management accounting function

As it may be expected that the effectiveness level of management accounting function would differ across the contingent variables, certain firms are likely to have a more effective management accounting function than others. Large firms are likely to have a formal control system and a sophisticated management accounting system (Khandwalla, 1972, 1977; Merchant, 1984; Gerdin, 2005; Cadez and Guilding, 2008; Cuzdriorean, 2017). As organisations increase in size and age, their activities become more complex (Mullins and Christy, 2013); the need to apply advanced management accounting techniques and run an effective management accounting system abound. In comparison to small-sized firms, it has been argued that larger organisations have the means to operate a sophisticated management accounting system, and the resources to hire specialists (Al-Omiri and Drury, 2007; Abdel-Kader and Luther, 2008). Sophisticated management accounting techniques are therefore likely to be adopted by larger firms (Innes and Mitchell, 1995; Bjørnenak, 1997; Haldma and Laats, 2002; Albu and Albu, 2012; Ahmad and Zabri, 2015). For example, Ahmad and Zabri (2015) investigation of factors affecting usage of management accounting practice among Malaysian medium-sized firms found that firm size is a significant positive predictor. Consistent with Bjørnenak (1997), Albu and Albu (2012) reported that firm size is a very important factor that affects adoption and use of management accounting techniques. Countering this view, Pavlatos (2011) found no association between adoption of Activity Based costing (ABC) systems and firm size.

There is a body of literature that have adduced the availability of qualified accounting personnel as a critical factor in the successful installation of modern management accounting systems and the resounding application of sophisticated management accounting technique (see Collis and Jarvis, 2002; Sousa et al., 2006; Ismail and King, 2007). Whereas the presence of qualified accounting staff positively affects the utilisation of management accounting practice (Haldma and Laats, 2002; Al-Omiri, 2003; CIMA, 2009), large firms may have the resources to hire qualified accounting staff and may anticipatorily have a more effective management accounting function.

Public-quotation would suggest that a firm is large and has more resources in comparison to non-quoted firms. As it would be expected that large firms have a more effective management accounting function (Merchant, 1981; Abdel-Kader and Luther, 2008), publicly-quoted firms should expectedly have more resources to hire qualified accounting personnel and to run an effective management accounting function.

Foreign-affiliated entities have a greater propensity to embrace advanced management accounting practice and run a very effective management accounting function, in comparison to local firms, because of their acculturation by associated foreign firms using advanced management accounting techniques. Some studies (for example, Gray, 1988;

Cohen et al., 1993; Baydoun and Willett, 1995; Zarzeski, 1996; Järvenpää, 2007; Maali and Napier, 2010; Oluku and Ojeka, 2011; Ajibolade, 2013a) have documented the influence of culture on accounting practices. The inclusion of culture as a contingent factor in the management accounting practice discourse gives consideration to the human factor in accounting systems and changes in the systems (Smircich, 1983; Smircich and Calas, 1987). In Hofstede (1990) consideration, common practices of an organisation are not unconnected to the values of the leaders and the orientation of other entities that exert on an organisation. This explains why the culture of the leaders of an organisation or foreign entities an organisation is affiliated to may either support or oppose the adoption of innovations such as management accounting practices. Ahl (1999) study of Australian companies found that organisational culture rather than national culture, appears to have stronger influence on the management accounting system.

The development of management accounting could be historically traced to the need for efficiency in the operations of production enterprises (Johnson and Kaplan, 1987; Johnson, 1992; Drury, 1996; IFAC, 1998) – this perhaps partly explains why many management accounting research focus on manufacturing companies, and why management accounting techniques are typically applicable to the activities of manufacturing concerns. Manufacturing firms may conceivably have a more effective management accounting function in comparison to non-manufacturing concerns. Based on these discussions, the following are hypothesized:

***H_2**: Large-sized firms are more likely to have a very effective management accounting function than small-sized firms.*

***H_3**: Matured firms are more likely to have a very effective management accounting function than start-up firms.*

***H_4**: Manufacturing firms are more likely to operate a very effective management accounting function than non-manufacturing firms.*

***H_5**: Firms with separate management accounting department are more likely to have a very effective management accounting function than firms with no separate management accounting department.*

***H_6**: Foreign-affiliated firms are more likely to operate a very effective management accounting function than local firms.*

***H_7**: Publicly-quoted firms are more likely to have a very effective management accounting function than non-quoted firms.*

3. RESEARCH METHOD

3.1 Research design, population and sample

This study adopted a quantitative survey research design. The population of the study comprised of private-sector organisations located in Lagos state, the commercial hub of Nigeria. The sampling frame comprised of registered companies in Lagos. The number of registered companies in Lagos was triangulated, using the statistics gleaned from three online sources: (i) the first source (http://www.6000profiles.com/States/Lagos%20State.htm) listed approximately 4,700 firms; (ii) the second source (http://www.lagoslocation.com/business_directory.html) contained roughly 4,850 firms; (iii) the third source

(http://www.finelib.com/cities/lagos/business) featured about 4,950 firms. The number of firms was rounded up to 5,000. A sample of 5% of the firms was selected, making a total number of two hundred and fifty (250) firms targeted, as it was impossible to cover all firms considering time and resource constraints. Prior related studies (for example, Soobaroyen and Poorundersing, 2008) have successfully used this approach in the selection of samples. Sample was randomly selected from the list of registered companies, upon their stratification on the basis of sector. Following the approach of Anthony (1988) and Lambert and Sponem (2012), the management accounting function rather than the individual management accountant was taken as the unit of analysis to ensure that response was obtained for the management accounting function at the corporate (not individual) level. Personnel in the Accounts/Finance Department having seniority in position within the organisation were targeted as respondents. Prior studies in management accounting (for example, Subasinge and Fonseka, 2009; Adejuyigbe *et al.*, 2013; Ajibolade, 2013b; Ajibolade, 2013a; Toluwase and Oyewo, 2014) have targeted this group of respondents because of the expected level of knowledge and experience on the Accounting Function / Finance Function in their organisations.

3.2 Data-collection method

Data collection was aided by a structured questionnaire. The questionnaire had two sections (I and II). Section I featured items of contingent variables such as size, age, sector, the existence of a separate management accounting unit/ department within the finance department, affiliation of the firm to foreign entity, and listing on the stock exchange. Size was proxied by number of employees. Other studies (for example, CIMA, 2009; Adejuyigbe *et al.*, 2013; Sunarni, 2013) have used the number of employees to measure the size of firms. To measure age in this study, the categorisation used in a CIMA (2009) Management Accounting survey was adapted on the basis of start-up firms (Up to 5 years), young firms (6 to 10 years), middle-aged firms (11 to 20 years), matured/ old firms (21 to 30 years) and very matured/ very old firms (Over 30 years). Sunarni (2013) argued that the use of number of employees to proxy size is justified on the basis that it is very easy to get the information on the number of employees rather than information on sales revenue or profit per year. The presence of specialist skills in management accounting was measured by asking whether or not firms had a separate Management Accounting Department either within or outside the Accounting / Finance function. Existence of a separate Management Accounting Department (within or outside the Accounting/ Finance Function) was used to establish the presence of specialist skills, and the non-existence connotes absence of specialist skills in management accounting.

Section II was subdivided into three parts (A to C); items on this part were adapted from the GMAP framework. Section II (subsection A) measured management accounting skills using 7 items. Section II (subsection B), with 10 items, focused on organisational performance management. Management accounting practice was the thrust of section II (subsection C) which featured 23 items. This section (section II, part C) of the questionnaire concentrated on seven (7) major management accounting activities measured using 23 items, including – (i) Cost transformation and management (items 1,2,3); (ii) Financial strategy (items 4, 5, 6); (iii) Internal Control (items 7, 8); (iv) Investment Appraisal (items 9, 10, 11); (v) Management and Budgetary control (items C12, 13, 14,15); (vi) Price, Discount and Product Decisions (items 16, 17, 18,19); and (vii) Treasury and Cash Management (items 20, 21, 22,23). Responses to

items in section II were calibrated on a *5-point* tapered scale. Statements bothering on extent of agreement or disagreement applicable to section II, subsections A, B, and E ranged from *Completely Disagree* (coded 1), *Disagree* (coded 2), and *I do not know* (coded 3), to *Agree* (coded 4) and *Completely Agree* (coded 5). Items eliciting response on frequency of activities, applicable to section II (C) were measured using the following designations – *Never* (coded 1), *Rarely* (coded 2), *Sometimes* (coded 3), *Mostly* (coded 4) and *Always* (coded 5).

3.3 Validity and reliability

To ensure validity, initial draft of the questionnaire was submitted to three experts – one academic and two management accounting practitioners (a consultant and a Chief Finance Officer) – for critiquing. Feedbacks obtained were used to refine the initial draft to improve quality, and an improved version of the instrument was administered. The reliability test ought to demonstrate the ability of a researcher and his research instrument to measure a construct consistently and reliably (Nunnally, 1978). Reliability assessment was triangulated using three techniques – Cronbach's alpha, Guttman Split-Half Coefficient, and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (Table no. 1).

Results of reliability tests presented in Table no. 1 shows that each of all the coefficients was above the acceptable minimum level of 0.60 (Nunnally, 1978; Qingping, 2009), thus confirming internal consistency.

Table no. 1 – Reliability test results

Variable	Number of item	Reliability Statistics		
		Cronbach's Alpha	Guttman Split-Half coefficient	Kaiser-Meyer-Olkin measure of sampling adequacy
Management accounting skills	7	.711	.694	.631*
Organisational performance management	10	.691	.611	.706*
Management accounting activities	23	.904	.841	.818*

**significant at 5%*

3.4 Respondents' attrition and response rate

Two hundred and fifty (250) copies of the questionnaire were administered but 136 copies were retrieved, representing a response rate of 54.4%; five (5) copies were unfit for use because of incomplete response to some questionnaire items. One hundred and thirty-one (131) copies were found suitable and processed for analysis, thus representing an effective response rate of 52.4%. This response rate is considered adequate to perform statistical analysis in comparison to the response rate achieved in some other related studies (for example, Gul and Chia, 1994; Chia, 1995; Chong, 1996; Chong and Chong, 1997).

3.5 Data analysis techniques and model specification

Descriptive (frequency count, percentage, mean (*M*), standard deviation (*SD*), minimum value and maximum value) and inferential (exploratory factor-analysis, Kruskal

Wallis Test, binary logistic regression) statistical tools were used for analysis. Binary logistic regression analysis was used to assess the likelihood of firms having a very effective management accounting function. The logistic regression model is specified in equation 1:

$$ln(P\ of\ MAFEI) = \alpha_0 + \alpha_1 Size + \alpha_2 Age + \alpha_3 Sector + \alpha_4 MAUnit + \alpha_5 HOlocation + \alpha_6 Listing \quad (1)$$

where:

MAFEI is management accounting function effectiveness index;
Size is firm size,
Age is firm age;
Sector is the sectors where firms operate;
MAunit is the existence of a management accounting unit;
HOlocation is affiliation to foreign entity;
Listing is public-quotation status of firm.
α_0 is the constant; $\alpha_{1\text{-}6}$ are regressor coefficients
Data analysis was aided with the use of *SPSS* (version 21) software.

4. RESULTS

4.1 Characteristics of sample firms

The firms surveyed are of varying sizes, ranging from small (number of employees of 1-50), medium-sized (number of employee of 51-200 and 201-500), to large (number of employees of 501-1,000) and very large (number of employees above 1,000) – see Table no. 2. More than half of the firms surveyed were very large (*n* = 67, 51.1%). The selection of firms across the different sizes presents the opportunity to examine management accounting issues in organisations of varying sizes. The firms also vary in age – including start-up (Up to 5 years), young (6 to 10 years), middle-aged (11 to 20 years), matured/ old (21 to 30 years) and very matured/ very old (Over 30 years) firms. 41 (31.3%) of the firms are over 30 years, followed by firms within the age bracket of *21 to 30 years* (*n* = 37, 28.2%). The remaining firms (*n* = 53, 40.4%) are less than 21 years (within the age bracket of less than 1year to 20years). Majority of the firms surveyed (*n* = 63, 48.1%) operate in the financial service sector (Banks and non-banks); followed by manufacturing concerns (*n* = 34, 26.0%) and Oil & Gas firms (*n* = 18, 13.7%); the remaining firms were from Telecommunications (*n* = 7, 5.3%), Trading (*n* = 5, 3.8%), and other line of business (*n* = 4, 3.1%). Respondents varied in their job titles, including (in descending order of appearance); Finance Manager (*n* = 47, 35.9%), Financial Controller (*n* = 34, 26.0%), Management Accountant (*n* = 30, 22.9%), Chief Finance Officer (*n* = 5, 3.8%), and Financial Director (*n* = 1, 0.8%). 14 (10.7%) respondents bore other titles such as *Chief Operating Officer*, *Chief Risk Officer*, *Risk manager* and *Accountant.* Most firms (*n* = 115, 87.8%) admitted to having a Management Accounting unit/department within the finance function firms, while a few (*n* = 16, 12.2%) have no such unit/department. 22 (16.8%) of the firms are headquartered abroad, connoting affiliation to foreign entities, while majority of the firms (*n* = 109, 83.2%) have head-offices/parent companies within Nigeria. The number of quoted (unquoted) firms was 80 (51) representing 61.1% (38.9%). In sum, the distribution of firms across the six (6) basis for categorisation (size; age; line of business; existence/non-existence of a separate management accounting unit; affiliation to foreign entity; and public-quotation status) establishes the heterogeneity in firm characteristics – this

provides a good basis to examine organisational issues bearing on management accounting function among Nigerian firms. The eliciting of opinion from respondents with varying job titles not only underscores the multifaceted nature of management accounting activities, but also signals the expectation that respondents should be knowledgeable about the management accounting function in their respective organisations.

Table no. 2 – Characteristics of sample firms

Variable	Category	Freq.	%	Total
Size (no. of employees)	1 to 50	24	18.3	
	51 to 200	17	13.0	
	201 to 500	19	14.5	
	501 to 1,000	4	3.1	
	Above 1,000	67	51.1	131
Firm age (in years)	Up to 5 years	18	13.7	
	6 to 10 years	6	4.6	
	11 to 20 years	29	22.1	
	21 to 30 years	37	28.2	
	Over 30 years	41	31.3	131
Sector	Manufacturing	34	26.0	
	Financial Service (Bank & non-bank)	63	48.1	
	Telecommunications	7	5.3	
	Oil and Gas	18	13.7	
	Trading	5	3.8	
	Others	4	3.1	131
Job title	Financial Director	1	0.8	
	Chief Finance Officer	5	3.8	
	Financial Controller	34	26.0	
	Management Accountant	30	22.9	
	Finance Manager	47	35.9	
	Others	14	10.7	131
Management Accounting Unit/Dept.	Existence	115	87.8	
	Non-existence	16	12.2	131
Location of Head-Office/ Parent company	Within Nigeria	109	83.2	
	Outside Nigeria	22	16.8	131
Public-quotation Status	Quoted	80	61.1	
	Unquoted	51	38.9	131

4.2 Effectiveness of management accounting function in nigerian firms

A scale for management accounting function's effectiveness (designated '*Management Accounting Function's Effectiveness Index, MAFEI*') was derived by combining three variables making up an effective management accounting function in accordance with the CGMA framework – management accounting skills, performance management and management accounting activities. Since the variables had more than five items, exploratory factor analysis (EFA) was first performed (using the principal component analysis (PCA) extraction method) to reduce the number of attributes, before aggregating and averaging the items. The cut-off point for factor loading was 0.5 which is well above the 0.3 minimum recommended (Nunnally, 1978).

The Kaiser-Meyer-Olkin (KMO) and Bartlett's Test are jointly used to confirm the factorability of a variable. Whilst the KMO measures the adequacy of the sampling, the

Barlett's test confirms the statistical significance. A KMO coefficient should be typically greater than 0.5 for a satisfactory factor analysis to be conducted (Kaiser, 1974). The result from exploratory factor analysis are first presented, variable by variable, followed by a descriptive statistics of the management accounting function's effectiveness index (*MAFEI*). From factor-analysing Management Accounting Skills, all items loaded strongly at the 0.5 benchmark in component 1 (explaining 36.89% of the variance) – see Annex 5a. Factorability of management accounting skills is confirmed by the KMO coefficient of .631 and Bartlett's Test ($p = .000 \leq .05$). Thus, all 7 items are retained. This result lends credence that the items reliably measure management accounting skills.

Factorability of organisational performance management is proven by the KMO coefficient of .706 and Bartlett's Test ($p = .000 \leq .05$). Result obtained from factor-analysing organisational performance management contained in Annex 5b shows that 6 items (highlighted) loaded above 0.5 on component 1 explaining 29.03% of variance. Reliability test was reassessed after dropping the 4 items that did not load, and the cronbach's alpha coefficient improved to 0.729. The 6 items were therefore retained and used to compute organisational performance management.

As for the factorability of management accounting activities, this is confirmed by the KMO coefficient of .818 (Barlett test p value = $.000 \leq .05$). Items that loaded on component 1 (explaining 33.625% of variance) were retained. Most of the items measuring management accounting activities loaded strongly above the 0.5 (Annex 5c). The minimum item that loaded had a coefficient of 0.506. As a consequence, it was only 4 items that were dropped and 19 items retained (highlighted in Annex 5c).

Overall, it was observed that reliability coefficients (Cronbach's alpha) of variables improved consequent on factor analysis as summarised in Table no. 3.

Table no. 3 – Summary of results from factor analysis

S/N	Variable	No. of items before factor analysis (Cronbach's alpha)	No. of items after factor analysis (Cronbach's alpha	Remarks
1	Management accounting skills	7 (.711)	7 (.711)	No changes in number of items
2	Organisational performance management	10 (.691)	6 (.729)	Reliability improved by 5.50%
3	Management accounting practice	23 (.904)	19 (.905)	Reliability improved by 0.11%

Management Accounting Skills was measured by finding the overall mean of the 7 items retained in the factor analysis. The cluster mean for Organisational Performance Management was obtained by finding the average of the 6 items retained from factor-analysis. Also, the 19 items retained from factor-analysing Management Accounting Practice were averaged.

The Management Accounting Function Effectiveness index (MAFEI) was obtained by finding the composite mean of Management Accounting Skills, Organisational Performance Management and Management Accounting Practice obtained earlier. Descriptive statistics of MAFEI is presented in Table no. 4.

Table no. 4 – Management accounting function's effectiveness index

Variable	N	Mean	Std. deviation	Minimum	Maximum
Management accounting function's effectiveness Index (*MAFEI*)	131	4.0790	.40605	3.06	5.00

Descriptive statistical analysis on Management accounting function's effectiveness Index (*MAFEI*) summarized in Table no. 4 yielded a minimum index of 3.06 and a maximum of 5.00. With the mean index of 4.0790 and a minimal *SD* (.40605), the management accounting function in Nigerian firms is adjudged to be effective (research objective one).

4.3 Influence of contingent variables on the effectiveness of management accounting function

Result on analysis of management accounting function's effectiveness across six (6) predictors is presented in Table no. 5.

Table no. 5 – Contingent variables and management accounting function's effectiveness

Variable	Category	N	Mean Rank	P value from Kruskal Wallis Test
Size (Number of Employees)	1-50	24	67.92	.059
	51-200	17	41.41	
	201-500	19	64.37	
	501-1000	4	62.00	
	Above 1000	67	72.25	
	Total	131		
Age (in years)	Up to 5	18	61.89	.044
	6-10	6	69.58	
	11-20	29	53.90	
	21-30	37	60.95	
	Over 30	41	80.40	
	Total	131		
Sector	Manufacturing	34	80.09	.001
	Financial Service	63	61.89	
	Telecommunication	7	84.86	
	Oil & Gas	18	41.33	
	Trading	5	33.60	
	Total	127		
Specialist skills (Existence of Management Accounting Unit)	Presence	115	68.58	.037
	Absence	16	47.44	
	Total	131		
Affiliation to foreign entity (Location of HO/parent company)	Nigeria	109	65.35	.662
	Outside Nigeria	22	69.23	
	Total	131		
Public Quotation status	Listed	80	74.01	.002
	Not listed	51	53.44	
	Total	131		

Firm size and management accounting function's effectiveness

In Table no. 5, the management accounting function's effectiveness appears to be staggered across the firm sizes. While it might have been expected that larger firms will have a more effective management accounting function, this seems not to be the case. For example, small-sized firms have mean rank score (67.92) more than the medium and the large-sized firms, except the very large-sized firms (mean rank = 72.25). Furthermore, firms with 201-500 employees had more effective management accounting function (mean rank = 64.37) than the ones in the 501-1000 employee-number bracket (mean rank = 62.00). It was therefore not unexpected that the difference in the effectiveness of Management Accounting Function on the account of firm size is statistically significant at 10% ($p = 0.059 \leq .10$).

Firm age and management accounting function's effectiveness

The management accounting function's effectiveness appears to be fluctuating throughout the age of firms (Table no. 6). Whilst start-ups (firms up to 5years) have more effective management accounting function (mean rank = 61.89) than some matured/ older firms (for example firms in the age bracket of 11-20; mean rank = 53.90 and 21-30; mean rank = 60.95), some matured/ older firms (firms in the bracket of 21-30; mean rank = 60.95; firms over 30 years with mean rank of 80.40) have a more effective management accounting function than some younger ones (11-20-year-old firms; mean rank = 53.90). However, firms over 30 years had exceptionally high mean rank for management accounting function's effectiveness, which accounted for the significant difference ($p = .044$), in the effectiveness of management accounting function among firms when dichotomised on the basis of age.

Sector and management accounting function's effectiveness

Sectorial classification of firms shows that Telecommunications (mean rank = 84.86) and Manufacturing firms (mean rank = 80.09) have the highest ranking index for management accounting function's effectiveness. Oil & Gas and Trading firms had the least ranking with mean ranks of 41.33 and 33.60 respectively. Firms therefore significantly differ in management accounting function's effectiveness with respect to their line of businesses ($p = 0.001 \leq .05$) – results summarized in Table no. 5.

Specialist skills (presence/absence of management accounting unit) and management accounting function's effectiveness

The dichotomisation of firms on the basis of the presence or absence of specialist skills (separate management accounting unit within the Accounts/Finance Department or Division) reveals that firms with a separate management accounting unit have a more effective management accounting function (mean rank = 68.58) than the ones with no management accounting unit (47.44), and the difference is so pronounced as to retain statistical significance at 5% ($p = 0.037 \leq 0.05$) – see Table no. 5.

Affiliation to foreign entity and management accounting function's effectiveness

Result on analysis of management accounting function's effectiveness in accordance with affiliation to foreign entity (whether the Head office is located within or outside Nigeria) presented in Table no. 5 established that firms with affiliation to foreign entity have a more effective management accounting function (mean rank = 69.23) than firms headquartered in Nigeria (65.35); the difference is not however pronounced as to retain statistical significance ($p = .622$).

Public quotation status and management accounting function's effectiveness

Publicly-listed firms (mean rank = 74.01) expectedly outperformed the non-quoted firms (mean rank = 53.44) with respect to management accounting function's effectiveness to the extent that there is a significant difference in the mean score ($p = .002 \leq .05$) – see Table no. 5.

In sum, result from the analyses of management accounting function's effectiveness vis-à-vis the predictors in Table no. 5 shows that five (5) out of the six (6) determinants considered evince statistically significant difference in the management accounting function's effectiveness, thus lending credence to the observation that contextual variables influence the management accounting function. Therefore, H1 is accepted and it is concluded that contingent variables significantly influence the effectiveness of management accounting function in Nigerian firms (research objective two).

4.4 Likelihood of operating a very effective management accounting function

The logistic regression model specified in equation 1 was used to estimate the likelihood of firms having a *very effective* management accounting function across the six predictor variables.

In order to inspect the distribution of the management accounting function effectiveness index (MAFEI) among firms, a Box-and-Whisker plot was used to map data. A Box-and-Whisker combines descriptive statistics of a variable all at once such that the spread of data can be observed (Gupta, 1999; Fiddler *et al.*, 2011). From the plot in Figure no. 1, the lowest score for the MAFEI lies slightly above 3.00, which is the minimum value of 3.06 (Table no. 4). The highest score for the MAFEI in Figure no. 1 represents the maximum value of 5.00 in Table no. 4. These results are corroborated by the statistics in the Table of extreme values in which the lowest values range from 3.06 to 3.24 and highest values range from (4.78 to 5.00) – see Annex 4. Drawing from the data distribution in Figure no. 1, the middle 50% of the MAFEI were between a score slightly above 3.75 (lies between 3.50 and 4.00) and about 4.40 (lies well above 4.20 but below 4.50). The top 25% of the scores (representing the fourth quartile, Q4) were between about 4.40 and 5.00. The median, represented by the thick line in the box which partitions the second (Q2) and third (Q3) quartiles, lies between 4.00 and 4.50. The average of these two figures were taken, which is about 4.25.

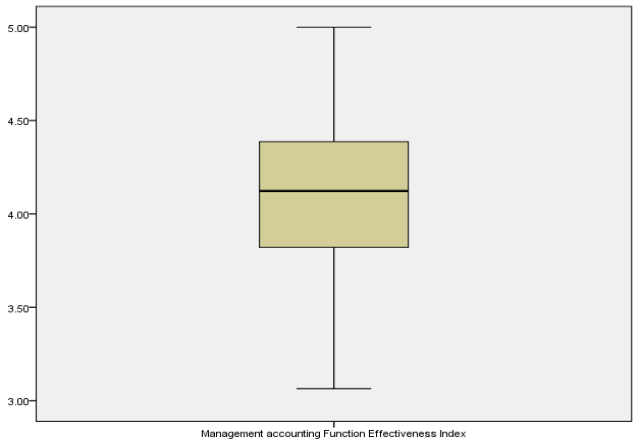

Figure no. 1 – Box and whisker plot for management accounting function effectiveness index

Further, in Annex 4, the value of 4.25 used as a basis for dichotomisation lies between the range of lowest and highest values. The 4.25 criterion splits the firms into two groups of those having a *very effective* management accounting function (values between 4.25 and 5.00) [coded '1'] and others having *not very effective* management accounting function (values between 3.06 and 4.24) [coded '0'] for the purpose of performing a logistic regression analysis.

Results from logistic regression analysis are reported in Table no. 6, Annexes 1, 2 and 3 respectively.

The full model was statistically significant [χ^2 (16) = 50.184, p = 0.000 ≤ 0.01] – see Annex 1. The model was able to successfully distinguish firms with a *very effective* management accounting function from those with a *not very effective* management accounting function. The Cox & Snell R Square coefficient of 0.320, and the Nagelkerke R Square of 0.440 (Annex 2), connote that 32% to 44% of the likelihood of operating a *very effective* management accounting function is attributable to the predictor variables. Overall, predictions were correct approximately 100 (99.8 times) out of 131 times, accounting for an overall success rate of 76.2% (Annex 3).

Table no. 6 – Logistic regression model predicting effectiveness of management accounting function in Nigerian firms

	Variable	B	S.E.	Wald	Sig.	Odds Ratio
	Constant	-15.607	10828.194	.000	.999	.000
Size	(≤ 50)			8.717	.069*	
	51-200	-1.853	1.093	2.873	.090*	.157
	201-500	-2.514	1.588	2.507	.113	.081
	501-1000	1.795	2.436	.543	.461	6.020
	Above 1000	4.708	1.771	7.070	.008***	36.009
Age (years)	(≤ 5)			.879	.927	
	6-10	.520	2.028	.066	.798	1.682
	11-20	-.706	.914	.597	.440	.493
	21-30	-.210	.847	.061	.804	.811
	Over 30	20.602	10828.194	.000	.998	8860
Sector	(Manufacturing)			1.836	.871	
	Financial Service	21.781	15512.881	.000	.999	2879
	Telecommunication	41.626	18918.240	.000	.998	1196
	Oil & Gas	43.045	18918.241	.000	.998	4946
	Trading	41.235	18918.240	.000	.998	8090
	Others	-.012	21694.583	.000	1.000	.988
MA unit	(Absent)					
	Present	4.224	2.115	3.987	.046**	68.320
HO location	(Outside Nigeria)					
	Within Nigeria	.659	.762	.748	.387	1.934
Listing	(Non-listed)					
	Listed	4.090	1.546	6.995	.008***	59.721

****p significant a 1%* ***p significant at 5%* **p significant at 10%* ( ) depicts reference group

There is a significant degree of association between firm size (less than 50 employees) and management accounting function effectiveness (p = .069 ≤ .10). Firms with 51-200 number of employees were 84.3 percent less likely to have a very effective management accounting function compared to firms with less than 50 employees (p = .069 ≤ .10). Very

large firms (with more than 1,000 employees) were 36.009 times more likely to have a very effective management accounting function than small sized firms ($p = .008 \leq .01$). As firm size has an overall significant effect on the effectiveness level of management accounting function, the H2 hypothesis is accepted.

Age has no significant effect on the level of effectiveness of the management accounting function; thus H3 is rejected.

Comparison of the effectiveness of management of function across industry shows no significant difference between manufacturing firms and non-manufacturing firms. Hence, H4 is rejected.

Firms with a separate management accounting department were 68.32 times more likely to have a very effective management accounting function than firms with no separate management accounting department ($p = .046 \leq .05$). As a result, H5 is accepted.

Comparison of Nigeria-headquartered firms with foreign-affiliated firms showed no significant difference in the effectiveness level of management accounting function. Hence H6 is rejected.

Publicly-listed firms were 59.72 times more likely to have a very effective management accounting function than non-listed firms ($p = .008 \leq .05$). Hence, H7 is accepted.

Table no. 7 – Summary of hypotheses-testing results

Hypothesis	Proposition / Statement	Decision
H1	Contingent variables will significantly influence the extent of effectiveness observed in the management accounting function of Nigerian firms	Accept
H2	Large-sized firms are more likely to have a very effective management accounting function than small-sized firms	Accept
H3	Matured firms are more likely to have a very effective management accounting function than start-up firms	Reject
H4	Manufacturing firms are more likely to operate a very effective management accounting function than non-manufacturing firms	Reject
H5	Firms with separate management accounting department are more likely to have a very effective management accounting function than firms with no separate management accounting department	Accept
H6	Foreign-affiliated firms are more likely to operate a very effective management accounting function than local firms	Reject
H7	Publicly-quoted firms are more likely to have a very effective management accounting function than non-quoted firms	Accept

To recapitulate, large firms, firms with specialist skills (separate management accounting unit/dept. within the finance function), and publicly-quoted firms are more likely to have a very effective management accounting function – the strongest predictor being the presence of specialist skills (research objective three).

5. DISCUSSION

Generally, management accounting function in Nigerian firms appear to be effective; level of effectiveness however significantly differs across firm size, age, sector, presence of specialist skills and public-quotation status, thus the influence of contextual variables on management accounting function's effectiveness in Nigerian firms is significant (H1). These results therefore support the contingency theory applied in this study, as well as other studies conducted in developed and developing countries (for example, Khandwalla, 1972;

Gordon and Miller, 1976; Otley, 1980; Hofstede, 1983; Reid and Smith, 2000; Chan and Chow, 2001; Haldma and Laats, 2002; Chenhall, 2003; Waweru *et al.*, 2004; Kattan *et al.*, 2007; Albu and Albu, 2012; Ajibolade, 2013b, 2013a; Ramli *et al.*, 2013; Ahmad and Zabri, 2015). Size and age of a firm are inextricably linked because as an organisation abound in age, it grows in size (Boddy, 2012; Mullins and Christy, 2013). The very large-sized and matured firms distinctively stood out in terms of management accounting function's effectiveness. Large and matured firms could have a more effective management accounting function in comparison to smaller and younger firms, for some plausible reasons – large organisations have more resources to implement a structure that accommodates a separate management accounting unit / department, hence the likelihood of having a very effective management accounting function (H2). In addition, matured firms may have realised the value-addition by the management accounting function, in the course of time, over organisational and product lifecycles, thus operating a management accounting department within the Finance Division. Meanwhile, organisations with separate management accounting unit were found to not only have an effective management accounting function (Table no. 5), but were likely to operate a very effective management accounting function (H5) – see Table no. 6.

Notwithstanding that difference in score with respect to location of Head-Office was not statistically significant (Table no. 5), the higher mean score of internationally-affiliated firms could be attributable to the influence of the foreign entities (especially those located in developed countries) on the Nigerian companies to embrace certain management accounting practice traceable to westernisation and predominant in developed countries. This also corroborates Ajibolade (2013b) position as to the influence of organisation culture on management accounting activities. Publicly-listed firms were found to have a more effective management accounting function in comparison to the privately-owned entities. This could be perceived from the standpoint that publicly-quoted firms in Nigeria are guided by best practices (such as the code of corporate governance); for instance, corporate governance codes in themselves encourage practices covering various management accounting issues, including but not limited to Board size and composition, executive compensation, risk management, internal control, organisational structure, adequacy of skills and experience (Singh and Davidson, 2003; Shukeri *et al.*, 2012; Tham and Romuald, 2012). The implementation of these practices should therefore produce a vibrant organisation (and an effective management accounting function by extension). Not unexpectedly therefore, publicly-quoted firms are more likely to run a very effective management accounting function in comparison to non-quoted firms (acceptance of H7).

6. CONCLUSION

This paper evaluated the level of effectiveness of the management accounting function in Nigerian firms, and the influence of six contingent variables – *firm size*, *age*, *sector*, *existence of management accounting department*, *affiliation to foreign entity and public-quotation status* – on the effectiveness of management accounting function in Nigeria. The plethora of studies in Nigeria have separately investigated the skills of management accountants, management accounting practice and organisational performance, but it seems no study has holistically assessed the effectiveness of management accounting function by integrating the elements of an effective management accounting function as suggested by the CGMA's (2014, 2015) GMAP framework. It is concluded that contingent variables have

significant influence on management accounting function's effectiveness in Nigerian firms. The firm-attribute predictors of the likelihood of operating a very effective management accounting function are: size, presence of specialist skills (existence of management accounting department) and public-quotation status, with presence of specialist skills being the strongest predictor.

This study is not without its specific limitations, in addition to general limitations of a cross-sectional survey which, according to Leach-Lopez *et al.* (2009), are: lack of temporal precedence between the dependent and independent variables, shortcomings associated with measurement scales, and the problem of generalisability. The research subject-matter relates to an egocentric issue such as job/occupation. Since the research made use of self-completed questionnaire to obtain responses, the possibility of a 'socially desirable responding' effect on the research outcome cannot be ignored. In other words, it is plausible that some of the responses provided to the questions might be trumped-up in order to create an impressive outlook; thus, the subsistence of *hawthorne effect.* Hughes (1951a; 1951b; 1958) cited in Lambert and Sponem (2012) has demonstrated that a person's occupation is a key element of his social identity and respondents may well be tempted to project a more flattering self-image than reality warrants. The number of firms sampled were limited due to time constraints and restricted access to some organisations located in Lagos state, and thus its results cannot be easily interpreted to cover all sectors and jurisdictions – future studies may consider enlarging the sample size. As the study did not focus on any particular sector, but limited samples were drawn from some sectors, results may have been different if the study was sector-specific. However, these limitations do not render the research findings unreliable or make its contributions worthless. Rather, the stating of limitations will enable readers to notice the area of loopholes and help future scholars to improve on the research.

Whereas it is commendable that nearly all firms (n = 115, 87.8%) sampled in this study have a management accounting department/unit, it is not generalisable that most firms in Nigeria have such arrangement or structure. Seeing that firms with separate management accounting unit/department within the finance function have a more effective management accounting function, establishments enmeshing management accounting function with general accounting function are advised to have separate management accounting unit because of the additional benefits imbued by the presence of specialist management accounting skills. The creation of a management accounting unit should consciously cause the organisation to hire management accountants, 'accountants in business' (CIMA, 2015) or accountants specialising in management accounting endeavour.

A positivist research paradigm was followed using quantitative research design. The study could be replicated using a qualitative or mixed research design for the purpose of gaining deeper insight or unearthing more issues. Whilst observing that firms significantly differ in the effectiveness of management accounting function across their line of businesses, the study did not focus on any particular sector – for this reason, additional researches that are sector-specific is recommended.

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ANNEX 1

Omnibus tests of model coefficients

		Chi-square	df	Sig.
Step 1	Step	50.184	16	.000
	Block	50.184	16	.000
	Model	50.184	16	.000

ANNEX 2

Model summary for logistic regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	118.763[a]	.320	.440

ANNEX 3

Logistic regression classification table[a]

Observed			Predicted		
			Effectiveness of MA function		Percentage Correct
			Not very effective	Very effective	
Step 1	Effectiveness of MA function	Not very effective	74	10	88.1
		Very effective	21	25	54.3
	Overall Percentage				76.2

[a] *The cut value is .500*

ANNEX 4

Extreme values for MAFEI

			Case number	Value
Management accounting function effectiveness index	Highest	1	91	5.00
		2	74	4.98
		3	113	4.84
		4	114	4.81
		5	80	4.78
	Lowest	1	58	3.06
		2	34	3.09
		3	33	3.09
		4	22	3.10
		5	64	3.24

ANNEX 5A

Component Matrix[a] for management accounting skills

	Component	
	1	**2**
The Accounting function provides performance analysis, reporting and planning that drives competitive strategy execution	.500	.231
The Accounting function performs roles that optimise capital structure, manage financial risk and evaluate and efficiently integrate acquired assets	.581	.582
The Accounting function develops and communicates strategy and strategy-execution plans that take account of market forces	.523	.462
The Accounting function provides information aiding improvement in operational effectiveness and efficiency	.661	.191
The Accountants/Finance officers communicate effectively with staff and management by translating complexity to simple language understood by all, using appropriate forum	.679	-.139
The Accountants/Finance officers use accounting information to advise staff on how to improve their performance	.636	-.509
The Accountants/Finance officers drive team performance by encouraging participation and sharing of ideas that aligns with organisational strategy and maximise firm goals	.648	-.622
% of variance explained	*36.89*	*18.66*

ANNEX 5B

Component Matrix[a] for organisational performance management

	Component			
	1	**2**	**3**	**4**
The results of the organisation are communicated according to stakeholder needs	.183	.432	-.381	-.227
There is clarity as to how the strategic objectives represent the organisation's purpose	.370	.116	.683	-.138
There is line of sight between what people and teams do and organisational strategic objectives	.643	.390	.103	-.044
Results are communicated in terms of their impact on strategic objectives	.588	.468	.171	.343
The organisation has ready access to real-time information about financial and non-financial results	.739	.286	-.182	.131
The strategic position of the organisation is identified and quantified, e.g. market share, availability of resources, and assessment of competencies	.647	-.433	.092	-.354
Strategic options are evaluated in the context of the organisation's strategic position and the key risks	.364	-.298	.393	.308
Planned options are validated through research, simulation, and testing for their impact on required outcomes	.671	-.438	-.076	-.368
Behaviour that falls short of expectations are immediately challenged	.326	-.441	-.249	.664
Individual performance targets are pegged to long-run value generation rather than short-term outcomes	.566	-.060	-.506	-.053
% of variance explained	*29.03*	*13.18*	*11.72*	*10.06*
Cronbach Alpha (Based on 6-item selection)	*.729*			

ANNEX 5C

Component Matrix[a] for management accounting activities

Cost targets are discussed and developed in conjunction with colleagues and business Partnerships to gain buy-in. They are refined over time	.562
Costs from previous years at aggregate, departmental/functional and product level are ascertained and compared over the period	.626
Performance measures for drivers of costs are developed or refined across the components of the business model.	.679
The impact of decisions on shareholder value are assessed using measures such as customer satisfaction, market share and profitability	.539
Debt and equity capital are sourced at lowest possible cost in the capital markets	.214
Nature, extent and impact of financial risks that the organisation face are understood and documented	.471
Responsibility for financial controls is assigned to appropriate levels of employees.	.438
The physical and financial processes that pose the most risk to the organisation are identified and evaluated	.647
The results of investment appraisal calculations are presented to decision-makers in a simple and transparent format before the investment decision	.506
Investment appraisals are based on cash flow information, which is relevant, accurate, reliable, consistent, complete and timely	.559
Due consideration is given to non-financial information in investment decisions	.630
Budgeting processes are transparent and consultative	.648
Measures and targets for activities are cascaded to all levels in the organisations to help people understand how their success contributes to organisational success	.466
Performance trends for inputs, outputs and outcomes and relevant benchmarks are tracked to ensure targeted results are competitive and continuously improve	.672
Scenarios on projections of volumes, prices and cost structures are performed to analyse the risks of associated activities and targets.	.606
Key pricing data is captured centrally and made available in the form of a pricing tool to relevant employees	.596
Management accountants are involved in the early stages of new product/service development, to evaluate cost/ benefit	.675
Pricing processes are standardised and institutionalised across the organisation	.553
Sensitivity analysis is performed on projects	.663
The organisation conducts early discussions with auditors, corporate advisers and lenders about uncommitted facilities, facilities that are up for renewal and any forecast breaches of covenants	.527
An efficient cash management system is established that contemplates future growth of the enterprise, and minimises idle cash balances	.605
Robust credit management processes for controlling and collecting payments are carefully followed	.635
The organisation's exposure to fluctuations in exchange and interest rates is calculated and proactively managed	.611
% of variance explained	*33.63%*
Cronbach Alpha (Based on 19-item selection)	*.729*