MANAGEMENT ACCOUNTING TECHNIQUES AND PERFORMANCE OF SMES IN NIGERIA: MODERATING ROLE OF ACCOUNTING INFORMATION QUALITY

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ABSTRACT

This study examined the link between management accounting techniques (represented by benchmarking, value chain accounting and balance scorecard) and performance SMEs; as well as the mediating role of accounting information quality on the link between management accounting techniques and SMEs' performance. The study adopted a survey research design and sampled 207 owners/managers of SMEs in Oyo State, Nigeria. The study collected primary data using questionnaire, and analyzed same using Partial Least Square (PLS) techniques. The study showed a significant positive direct relationship between balanced scorecard and SMEs' performance as well as between benchmarking and SMEs' performance. However, the results show that the direct relationship between value chain costing and SMEs' performance is insignificant. Also, this study found only a significant positive mediating effect of accounting information quality on the relationship between balanced scorecard and SMEs' performance. Thus, study concludes that management accounting techniques (benchmarking, value chain costing and balanced scorecard) have positive relationship with performance of SMEs, and that accounting information quality mediates the relationship between management accounting techniques and SMEs' performance, The study recommends that owners/managers of SMEs should adopt benchmarking and balanced scorecard (as management accounting techniques) and accounting information quality as a decision support system, to manage their business processes, in order to improve their performance and position for continuous improvement.

Keywords: Accounting information quality, balanced scorecard, benchmarking, SMEs' performance, value chain costing

INTRODUCTION

The performance of small and medium enterprises (SMEs) is a critical determinant of sustained growth and development of nations of the world. It has been highlighted that the wealth of nations and growth of economies highly depend on SMEs' performance (Abdullah & Rosli, 2015). SMEs are thus fundamental components of the economic fabric of nations, and serve as engine room of economic growth by stimulating and promoting innovation, fostering entrepreneurship, generating employment, increasing national output, promoting export and creating wealth that enhance prosperity (Hilal & Gunapalan, 2020; Ateke & Nwiepe, 2017; Magembe, 2017; Ebitu et al., 2016; European Investment Bank, 2011).

In many countries, SMEs represent 98 per cent or more of all businesses, and accounts for an average of 70 per cent of jobs, 45 per cent of net total employment and 33 per cent of Gross Domestic Product (GDP) in emerging economies (Organisation for Economic Co-operation and Development [OECD], 2017). Going by the contribution of SMEs to GDP in some nations, SMEs in Nigeria have the potential to make more significant contribution than they are doing at present. SMEs in Nigeria contribute about 48% of GDP (SMEDAN/NBS MSME Survey, 2013; Aroloye, 2017). Even going by comparable figures in countries at the same level of development with Nigeria, SMEs contribute a higher proportion to GDP than currently observed in Nigeria. In Ghana, SMEs contribute 70% to GDP (Baidoo 2018; Oteng et al., 2016), meaning that SMEs' contribution to GDP in Nigeria is poor.

Dahal et al. (2020) advocates that companies in today's business context must adopt proper management accounting techniques when making managerial decisions intended to foster efficiently effective business operations that would improve their performance. This is because management accounting techniques seek to guide planning and appropriate decision-making to achieve better organizational performance. For instance, operating costs need to be carefully managed by financial managers through the implementation of accounting techniques (Chow et al., 2019). In addition, management accounting information contributes to organization's performance by providing feedback on strategic plans and work completion (Alabdullah, 2019).

Extant literature shows direct positive link between management accounting techniques and performance (Madhoun, 2020; AL-Dweikat & Nour, 2018). However, no known study has explained the mediating role of accounting information quality in the relationship between management accounting techniques and performance of SMEs in Nigeria. In cognizance this research gap, this study seeks to examine the mediating role of accounting information quality in the relationship between management accounting techniques and performance of SMEs in Nigeria.

LITERATURE REVIEW

Concept of Management Accounting Techniques

Management accounting, according to Hald and Thrane (2016), is a procedure within a company that offers information and insights for planning, assessment, and monitoring of operations. Management accounting serves as a functional tool for expanding understanding about how to enhance organizational performance by providing timely access to relevant data and analysis in order to produce and maintain value for decision-makers (Pradhan et al., 2018). As a result, management accounting system denotes the systematic application of management accounting procedures to meet organizational objectives (Rasid et al., 2011).

Management accounting techniques that affect performance of SMEs include benchmarking, value chain costing and balanced scorecard (AL-Dweikat & Nour, 2018). Benchmarking is the process of comparing a company's business processes to other companies in the industry or to observe best practices employed by other companies (Botha & Du Toit, 2017). This can be used as a technique to manage an organization's processes in order to facilitate continuous improvement.

Value chain costing is an analytical technique that add value to customers by reducing costs (Marlina et al., 2018). Value chain analysis is important to understanding the sequence of activities that add value, benefits and contribute to products provided by an organization. Balanced Scorecard technique helps managers track growing and declining activities from different perspectives. It help managers obtain a comprehensive framework for interpreting and translating the vision and strategy of the organization in the form of a set of performance indicators (Hatefi & Haeri, 2019).

Performance of SMEs

The concept of performance refers to the degree to objectives of an organisation are achieved using resources as efficiently as possible. Performance for SMEs is measured in terms of economic value as a percentage, effort realization, customer focus, and profitability (Zakaria, 2021). Although growth is frequently cited as the most crucial performance indicator for small businesses, Debnath (2012) and Lumpkin and Dess (1996) argue that performance is multidimensional and that it is advantageous to include both financial and non-financial performance metrics in empirical studies. Zahra (1991) asserts that financial and growth performance are distinct kinds of performance, and that each discloses crucial performance data. Growth and financial performance, when combined, offer a deeper depiction of the real success of a company than either does separately (Zahra, 1991).

Management Accounting Techniques and SMEs' Performance

Management accounting attempts to provide managers with accurate, timely, and relevant data to help them make critical choices (Tanui, 2020). Armitage et al. (2016) claim that through management accounting methodologies, businesses may obtain access to financial and non-financial data to assist in enhancing their operations. Similarly, Madhoun (2020) states that management accounting strategies improve firms' profitability by reducing waste and maximizing resource usage.

Almatarneh et al (2022) reported that management accounting in terms of goal cost, value chain costing, and quality costing, strongly relates to supply chain performance in logistics and manufacturing organizations. Madhoun (2020) on their part reported that management accounting procedures enhance performance of Palestinian commercial banks; while Dahal et al. (2020) reported management accounting procedures improve decision-making proficiency of managers of listed manufacturing enterprises in Nepal. Benchmarking, value chain analysis and balanced scorecard the facets of of modern management accounting methods (Nazaripour & Ravand, 2019) accommodated in this study.

Benchmarking

Benchmarking is the adoption of good techniques from other businesses, whether in a comparable or unrelated industry, and the use of compared evaluations to improve operations (Madhoun, 2020). Benchmarking reflects the process of continually recognizing, analyzing, and applying best practices and procedures discovered both inside and outside an organization in order to improve performance (AL-Dweikat & Nour, 2018). This means that benchmarking is a method of achieving continuous improvement. Benchmarking allows a company to benefit from the lessons learned from other businesses' trials and failures. A benchmark may help organizations achieve good performance by providing a level of excellence against which to measure and compare (Matambele & van der Poll, 2017). It is critical for a firm to understand the tactics of other profitable businesses in order to survive. We therefore speculate that:

Ho_1: Benchmarking has no significant effect on performance of SMEs in Nigeria.

Value Chain Costing

The operations that organizations engage in, from sourcing raw material, manufacturing goods or providing services, delivering products to the final consumer come under the broad idea of value

chain (Dulay et al., 2016). From the fundamental raw material sources to the end commodities given to customers, the value chain is made up of whole actions that create value. Aside from internal operations, the company must extend its external activities while adding value (Madhoun, 2020). This will allow them to form connections with other firms through external activities, allowing them to save costs and increase profits. Costs are given to actions necessary to develop, purchase, advertise, transport, and maintain a product along the value chain in value chain costing (Debnath, 2012). Value chain costing assists reviewing, developing, and evaluating a firm's strategic position, as well as evaluating competitive cost positions and decreasing time and expenses. Consequently, we hypothesize that:
Ho_2: Value chain cost technique has no significant effect on performance of SMEs in Nigeria.

Balanced scorecard
A balanced scorecard is a system of measurement that directs actions toward the firm's general objective (Kaplan & Norton, 2007). It is both a strategic management and measuring method that allows firms to articulate their vision and plan and put them into action (Agyeman et al., 2017). This means that the balanced scorecard is a strategic management and assessment method that connects strategic goals to a diverse set of key performance indicators to create a balanced picture (Shah et al., 2011). It attempted to achieve balance by connecting the company's vision and strategy with multi-dimensional consumer viewpoints, internal business processes, learning and growth, and financial condition. Managers may use the balanced scorecard to look at the firm from these four perspectives. Therefore, we conjecture that:
Ho_3: Balanced scorecard technique has no significant effect on performance of SMEs in Nigeria.

Mediating role of accounting information quality
Accounting Information System (AIS) is a combination of human and material resources for the conversion of financial data to form useful for decision making (Bodnar & Hopwood, 2010). It's a computer-based system that analyses financial data and assists with decision-making in the context of organizational coordination and control. Completeness, timeliness, accuracy, and consistency are four features used to assess the quality of accounting information (Al-Hiyari et al., 2013). The product of a quality AIS is the quality of accounting data.

Accounting information is relevant, accurate, timely, and comprehensive when it is generated using an accounting information system (Fitriati, & Mulyani, 2015). Accounting information quality is defined as the capacity of management accounting information to demonstrate the quality of judgments made to effectively assess, analyze, and forecast economic events. Accounting information of high quality is management accounting information that can assist users in performing the intended action (Zhai & Wang, 2016).

Quality accounting information increase quality of managers' understanding of the company, allowing them to see changes both within and outside the organization, allowing them to respond promptly and correctly to the changes (Phomlaphatrachakom, 2020). Accounting information quality in this research relates to the consistency, correctness, completeness, timeliness, and relevance of accounting information used to solve problems and properly anticipate economic events accurately and clearly (Thapayom & Ussahawanitchakit, 2015).

Accounting information quality play's significant role in enhancing the cost accounting objectives of firms. We argue that accounting information quality is the nexus of decision-making process in management accounting. Without quality accounting information management and investors may not make prudent decisions. Therefore, we hypothesize that:

Ho_4: Accounting information quality does not significantly mediate the effect of management accounting techniques on performance of SMEs in Nigeria.

Theoretical Review

This research is based on signaling theory (Ross, 1977) which supposed that business leaders with more information about their employer are obligated to share that information with potential investors. The theory states a corporation would always aim to provide a good signal to external parties about its success by disclosing information in financial statements. Within the context of this study, if management accounting methods increase information quality and, as a result, greater performance, management will employ accounting techniques as a motivation for management quality and effectiveness.

METHODOLOGY

This study adopted a survey research design cross-sectional design. The population for the study consists SMEs in Oyo state, Nigeria. The National Bureau of Statistics (2017) put the number of SMEs in Oyo State at 7,987. The study derived a sample size of 311 using the Yaro Yamane sample size determination method. Primary data was collected using online questionnaire through google form with 5-point Likert scale. In addition, five research assistants were engaged to ensure the copies of questionnaire were administered and collected for further analysis. The research assistants became necessary due to geographical distance between the researcher and the survey area. All research instruments that were used to measure variables in this study was adopted from previously validated scales. The data collection process ensured anonymity. Also, consent was sought from SMEs owners and/or managers prior to the distribution of the questionnaire. The data collected was analyzed using Structural Equation Modelling, with the aid of the Statistical Package for Social Sciences (SPSS).

RESULTS AND DISCUSSIONS

311 copies of questionnaire were distributed to SME owners/managers. The returned copies of the questionnaire were only 207. The measurement model included items addressing the five (5) key variables of the study: benchmarking, value chain costing, balanced scorecard, accounting information quality and SME' performance. Firstly, individual items were measured for reliability by assessing the outer loading of each construct in line with the PLS-SEM procedure (Hair et al., 2014). The threshold is to retain the items having values 0. 70 or above, otherwise delete the items with less than 0. 70 values (Hair et al., 2014). Based on the suggested threshold, as shown in Table 1 and Fig. 1, 4 indicators (i.e: BT3, VCCT4, BST1, AIQ1, BP2 and BP4) were deleted due to their low outer loading. Therefore, the results of individual items reliability testing shows that four (4) indicators of benchmarking and SMEs' performance and three (3) indicators of value chain costing, balanced scorecard, accounting information quality produced outer loadings that are greater than 0.7. Thus, these seventeen (17) indicators are deemed valid for further analysis.

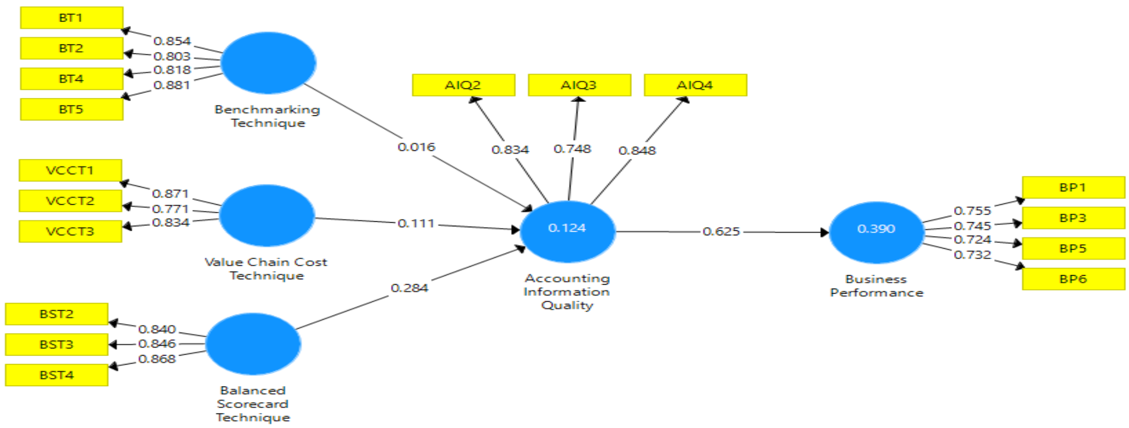

Fig. 1: Modified Measurement Model
Source: Output of data analyses on management accounting techniques and SMEs' performance (2022)

Table 1: Model Assessment

Variables	Items	Outer VIF Values	Outer Loadings	Construct reliability and validity: CR	α	AVE
Accounting Information Quality	AIQ2	1.563	0.834	0.852	0.741	0.658
	AIQ3	1.377	0.748			
	AIQ4	1.532	0.848			
(SMEs) Business Performance	BP1	1.480	0.755	0.828	0.724	0.546
	BP3	1.309	0.745			
	BP5	1.363	0.724			
	BP6	1.322	0.732			
Balanced Scorecard	BST2	1.829	0.840	0.888	0.812	0.725
	BST3	1.785	0.846			
	BST4	1.733	0.868			
Benchmarking	BT1	2.398	0.854	0.91	0.863	0.705
	BT2	1.901	0.803			
	BT4	1.927	0.818			
	BT5	2.077	0.881			
Value Chain Costing	VCCT1	1.605	0.871	0.866	0.776	0.683
	VCCT2	1.643	0.771			
	VCCT3	1.558	0.834			

Note: CR = Composite Reliability, α = Cronbach Alpha, AVE = Average Variance Extracted.

Table 1 and Figure 1 also showed that the Composite Reliability (CR) values of the main constructs were from 0.829 to 0.905, showing that the measurements were reliable. Moreover, based on the reliability test results in Table 1, the Cronbach's Alpha value for each variable is greater than 0.7, indicating that the main constructs are reliable and can be used for further analysis. Furthermore, construct convergent validity is measured by the average variance extracted (AVE). In Table 1, the AVE of all constructs is greater than the threshold level of 0.5. Therefore, construct validity and reliability are confirmed (Fornell & Larcker, 1981). Lastly, collinearity diagnosis was also conducted and variance inflation factor (VIF) in Table 1 was found below the threshold value of

10 (Cohen et al., 2013), with the largest VIF = 1.751. This indicates that no multicollinearity problem exists in the model.

Table 3: Coefficient of Determination (R Square)

	R Square	R Square Adjusted
Accounting Information Quality	0.124	0.111
SMEs' Performance	0.390	0.387

Source: Output of data analyses on management accounting techniques and SMEs' performance (2022)

Table 3 reveals an R Square of 0.124 for accounting information quality which means that for any change in accounting information quality, the three dimensions of the independent (benchmarking, value chain costing and balanced) explains just 12.4% of that change. However, R Square of 0.390 for SMEs' performance means that for any change in SMEs' performance, benchmarking, value chain costing and balanced scorecard explains 39.0% of that change. The variance between R Square and R Square Adjusted for accounting information quality and SMEs' performance were not much indicating that there were no significant outliers in responses for all the variables.

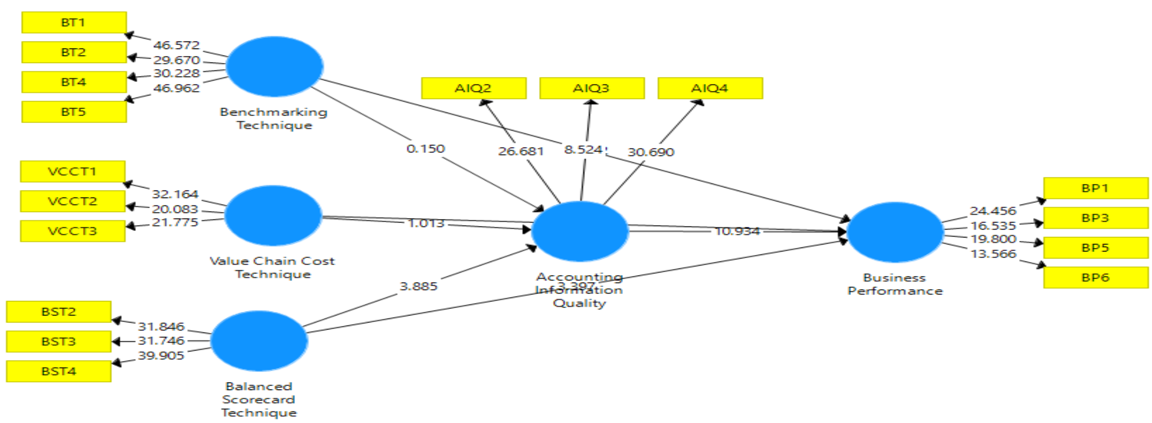

Fig. 2: Direct Effects Bootstrapping Result

Source: Output of data analyses on management accounting techniques and SMEs' performance (2022)

Fig. 2 explains that the structural paths leading from management accounting techniques (benchmarking, value chain costing and balanced scorecard) to SMEs' performance.

Table 4: Direct Effect Bootstrapping Result

Construct	Direct effect	T Statistics	P Values
H1: Balanced Scorecard Technique -> Business Performance	0.158	3.397	**0.001**
H2: Benchmarking Technique -> Business Performance	0.452	8.524	**0.000**
H3: Value Chain Cost Technique -> Business Performance	0.030	0.525	**0.600**

Source: Output of data analyses on management accounting techniques and SMEs' performance (2022)

The results show that the coefficient of balanced scorecard technique is significantly positive (β = 0.158, $p < .001$). Thus, Hypothesis 1 is not supported. In addition, the coefficient of benchmarking technique is significantly positive (β = 0.452, $p < .001$). Thus, Hypothesis 2 is not supported.

However, the coefficient of value chain cost technique is insignificantly positive (β = 0.452, p > .005). Thus, Hypothesis 3 is supported.

Table 5: Indirect Effect

Construct	Indirect effect	T Statistics	P Values
H4a: Balanced Scorecard Technique -> AIQ -> BP	0.132	3.690	0.000
H4b: Benchmarking Technique -> AIQ -> BP	0.008	0.150	0.881
H4c: Value Chain Cost Technique -> AIQ -> BP	0.044	0.999	0.318

Note: AIQ = Accounting Information Quality; BP = Business Performance
Source: Output of data analyses on management accounting techniques and SMEs' performance (2022)

This study also tests the mediating effect of accounting information quality on the relationship between each of three dimensions management information techniques and business performance. The bootstrapping results in table 5 and figure 2 revealed that the indirect effect of balanced scorecard technique on business performance through accounting information quality was positive and the only one that is significant (b = 0.132, P < 0.001), hence H4a was not supported.

DISCUSSION OF FINDINGS

Studies have examined the relationship between management accounting techniques and organizational outcomes. However, the mediating effect of accounting information quality has not been sufficiently explored by extant research. Drawing from this gap, this study examine the effect of management accounting techniques and accounting information quality on SMEs' performance in Nigeria. Firstly, this study examined the effect of three dimensions (benchmarking, value chain costing and balanced scorecard) of management accounting techniques on SMEs' performance. The study found a significant positive direct relationship between balanced scorecard and SMEs' performance as well as between benchmarking and SMEs' performance. However, the results show that the direct relationship between value chain costing and performance of SMEs' is statistically insignificant.

These results support the view that balanced scorecard helps managers track growing and declining activities from different perspectives. It attempts to achieve balance by connecting the company's vision and strategy to consumer viewpoints, internal business processes, learning and growth, and financial conditions. Based on the results of this study, benchmarking could be viewed as a method of achieving continuous improvement through best practices. Benchmarking allows a company to benefit from the lessons learned from the trials and failures of other businesses. The findings are in line with the view that benchmarking and balanced Scorecard have a considerable positive influence on quality of financial data (AL-Dweikat & Nour, 2018). This study is also in agreement with the study of Agyeman *et al*. (2017) who investigated the extent to which the four perspectives of the balanced scorecard are used in Ghanaian banks to manage performance and found that balanced scorecard viewpoints were statistically and significantly with performance.

Secondly, this study examined the mediating effect of accounting information quality on the relationship between management accounting techniques (benchmarking, value chain costing and balanced scorecard) and SMEs' performance. The results of the empirical analyses showed significant positive mediating effect of accounting information quality only in the relationship between balanced scorecard and SMEs' performance. This result implies that accounting information quality mediates the relationship between balanced scorecard as a management accounting technique and SMEs' performance. Therefore, the study has empirically shown that through management accounting technique's accuracy, timeliness, completeness, consistency, and relevance, accounting information are applied to solve problem and forecast economic events accurately and clearly (Thapayom & Ussahawanitchakit, 2015). This in turn, affect performance of SMEs positively (Al-Dmour et al., 2021). Quality information, in addition to a sound management accounting techniques improves managers' understanding and quality of decisions.

CONCLUSION AND RECOMMENDATIONS

This study investigated the connection between management accounting techniques and performance of SMEs in Oyo state, Nigeria. The study also examined the mediating role of accounting information quality in the relationship between management accounting techniques and SMEs' performance. The study adopted benchmarking, value chain costing and balance scorecard as dimensions of management accounting techniques. Based on the empirical analyses, the study found that benchmarking and balanced scorecard have strong positive connection with performance of SMEs. The study also found that accounting information quality mediates the relationship between management accounting techniques (balanced scorecard and benchmarking) and performance of SMEs.

Hence, the study concludes that management accounting techniques (benchmarking, value chain costing and balanced scorecard) have positive relationship with performance of SMEs, and that accounting information quality play a mediating role in the relationship management accounting techniques and SMEs' performance; and recommends that SMEs owners and/managers should adopt benchmarking and balanced scorecard (as management accounting techniques) and accounting information quality as a decision support system, to manage their business processes, in order to position for continuous improvement.

Although the survey data were obtained from SMEs in Oyo state, Nigeria, it offers valuable insights about benchmarking, value chain costing and balanced scorecard as management accounting techniques, and their links to performance of SMEs. The study also highlights the place of accounting information quality in the nexus between management accounting techniques and performance of SMEs. Therefore, this study has both theoretical and managerial contributions.

Theoretically, the study has bridged the gap in literature on the relationship between management accounting techniques (like benchmarking, value chain costing and balanced scorecard) on performance of SMEs, as well as the impact of accounting information quality on the link between management accounting techniques and SMEs' performance. The managerial implications of the study is embedded in the knowledge this study offers owners/managers of SMEs. Primarily, the study enjoins owners/managers of SMEs to strive for accounting information quality, if they improve their performance. Not only does information quality have the potential to significantly affect organizational productivity, it is also a key to effective application of management accounting techniques.

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