THE USAGE OF CUSTOMER ACCOUNTING AS A SOURCE OF SUSTAINABLE COMPETITIVE ADVANTAGE: SOME EVIDENCE FROM QUOTED MANUFACTURING COMPANIES IN NIGERIA

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Abstract

The performance of the manufacturing sector in Nigeria in recent times has been unsatisfactory. There have thus been calls for research into strategies that can revamp the performance of companies operating in the sector. Since customer accounting has been put forward as a strategically oriented management accounting technique linked with competitive advantage, this study investigated whether or not the use of Customer Accounting Technique (CAT) can create and sustain competitive advantage in the medium- to long- term in the Nigerian manufacturing sector. Data obtained from the annual reports of fifty-six (56) manufacturing companies quoted on the mainboard of the Nigerian Stock Exchange (NSE) covering a 10-year period (2008-2017) were analyzed using descriptive statistics and independent sample t-test. It was discovered that the most popular form of customer accounting practice among companies is the tracking of revenue, cost & profit per customer. Whereas the frequency of high-users of CAT was less than those of low- users, the usage rate of CAT was noted to be generally average. It appears the intense usage of CAT can create and sustain competitive advantage in the dimensions of profitability, market share and customer patronage. However, the study found no evidence to support the supposition that the deployment of CAT can sustain shareholders' value creation. Following empirical finding from this study that customer accounting is a source of sustainable competitive advantage, organisations seeking strategies to improve their competitiveness may consider the extensive application of CAT to gain and sustain competitive advantage, especially in the enhancement of profitability, market share and customer patronage.

Keywords: competitive advantage; customer accounting; market orientation; strategic management accounting; sustainable competitive advantage

JEL Classification: M4

Introduction

The modern business environment is characterised by a highly competitive market; diversity of products, processes and customers; and significant overhead costs which are not easily assignable to individual products. Pre-1970s in manufacturing concerns globe-wide, there was little overseas

competition (Amey & Egginton, 1973); inefficiencies in business processes were borne by customers as the entire cost of production (including cost of abnormal wastages) were passed on to customers. In recent times, there is massive international competition. Customers are now more discerning—sophisticated customers demand require continual product redesign and quick time-to-market. As product lifecycles have dramatically reduced, companies are moving away from producing standardised products towards providing customised products through diverse product-bouquet or (product-offerings) in a move to assuage customers' quest for innovative products and services. These developments connote that customer management is now a critical success factor. Since management accounting involves the application of accounting expertise in the analysis of accounting information to assist management (Meshack, 2011; Chartered Institute of Management Accountants, CIMA, 2013; Kaplan, 2013; Oyewo, Ajibolade & Obazee, 2019), management accountants must integrate financial and non-financial information to support management in the endeavour of monitoring customers.

The need to monitor non-financial dimensions of corporate performance, such as customer satisfaction, is noised by the debate surrounding the limitations of financial performance measures, and the ensuing widespread of multi-perspective strategic performance measures (Ajibolade & Oyewo, 2017). The customer perspective is one of the well-acknowledged dimensions of non-financial performance, and the practice of gauging competitive advantage by monitoring customer patronageis beginning to make inroads into accounting, management and marketing. Customer accounting refers to the practice of appraising profits, sales or present value of earnings relating to a customer or a group of customers (Guilding & McManus, 2002 cited in Holm, Kumar & Plenborg, 2016). Customer accounting has, therefore, been recurrently included in the gamut of innovative management accounting techniques labelled “strategic management accounting” practice. Meanwhile, strategic management accounting (SMA) is a collection of externally oriented and strategy-driven management accounting techniques that could enhance organizational competitiveness (Ashfaq, Younas, Usman & Hanif, 2014; Oyewo & Ajibolade, 2019).

Customer Accounting techniques (CAT) are considered to be strategy-related, because a key aspect of strategy is customer satisfaction (Balogun, & Hope-Hailey, 2016; Johnson, Whittington, Scholes, Angwin & Regnér, 2017).Organisations that will remain relevant in the modern business environment must have a strong market orientation by being abreast of customers sentiments, with a view to keeping customers satisfied. Whereas customer accounting is underpinned by market orientation, surprisingly, the concept of market orientation has received little recognition in management accounting literature until recently when some researchers started investigating it as a contingent variable affecting management accounting practice (for example, Cravens & Guilding, 2001; Guilding & McManus, 2002; Cadez & Guilding, 2008; Al-Mawali, 2015). Cadez & Guilding, (2008) decry that while marketing academics have afforded this construct much attention, accounting researchers do not attach much importance to it, and sparingly research the variable. Therefore, studies on management accounting innovation cannot afford to ignore the concept of market orientation because one of the recurring characteristics of modern management accounting systems is a focus on

customers; not unexpected, therefore, customer accounting has been included among the panoply of SMA techniques.

The manufacturing sector in many climes plays an important role in economic development. However, while in the past, the manufacturing sector in Nigeria has made some contributions to economic development, its recent performance has been unsatisfactory (National Bureau of Statistics, 2016; Okon, 2019). Made-in-Nigeria goods have not been able to compete favourably with products from other nations. There have thus been calls for research into strategies that can be successfully utilised to revamp the Nigerian manufacturing sector and make the sector more competitive (Ku, Mustapha & Goh, 2010). Literature suggests that the usage of SMA techniques such as customer accounting can create competitive advantage (Ryals, 2005; Kumar & Shah, 2009; Holm et al., 2016). This argument is hinged on the consideration that companies with strong market orientation will attach great importance to market-orientated information (Slater & Narver, 1994), and because highly market-oriented organisations have a very strong external focus (Kotler, 1977), a positive association between market orientation, usage of customer-focused SMA techniques and competitive advantage may be envisaged.

Since customer accounting (as a SMA practice) has been put forward as a strategically-oriented management accounting technique linked with competitive advantage (CIMA 2013), its deployment could improve the competitiveness of manufacturing companies in Nigeria at both the local and international scenes. However, empirical evidence on this proposition is still lacking, as the link between customer accounting and competitive advantage in the long-run (sustainable competitive advantage) is yet to be rigorously explored. The motivation to undertake this research stems from these aforementioned developments. This study therefore investigated the usefulness of CAT in gaining and sustaining competitive advantage, with a focus on quoted manufacturing companies in Nigeria. The objectives of the study are to; (i) assess the forms of customer accounting practice;(ii) determine the usage rate of CAT; (iii) assess the impact of usage of CAT on competitive advantage in the medium- to long- term (i.e. sustainable competitive advantage)in terms of profitability, shareholder value creation, market share, and customer patronage.

Data obtained from the annual reports of fifty-six (56) publicly quoted companies covering a 10-year period (2008-2017) were analysed using descriptive statistics and independent sample t-test. It was discovered that the most popular form of customer accounting practice among companies in Nigeria is the tracking of revenue, cost & profit per customer. While the frequency of high- users of CAT was less than those of low- users, the usage rate of CAT was noted to be generally average. It appears the intense usage of CAT can create and sustain competitive advantage in the dimensions of profitability and market share. However, the study found no evidence to support the supposition that the deployment of CAT can sustain shareholders' value creation. Following empirical findings that customer accounting system is a source of competitive advantage, organisations seeking strategies to improve their competitiveness may consider the extensive application of CAT to gain and sustain

competitive advantage especially in the dimensions of profitability, market share and customer patronage.

The remaining part of the paper is organised into four Sections (2-5). Section 2 focused on literature review. After expounding on the methodology adopted for the study in Section 3, results & discussions are covered in Section 4. The paper is concluded in section 5.

Literature Review

Customer Accounting as a Strategic Management Accounting Practice

Customer accounting belongs to the group of innovative management accounting techniques called SMA. The emergence of SMA techniques has been diverse, contradictory and iterative as the techniques have witnessed continuous addition and updating (Cinquini & Tenucci, 2007; Noordin, Zainuddin & Tayles, 2009). However, a widely applied taxonomy for grouping SMA techniques was developed by Cadez and Guilding (2008). By deriving sixteen (16) SMA techniques from prior studies, Cadez and Guilding (2008) refine the classification of the techniques into five broad groups of (i) costing; (ii) planning, control and performance measurement; (iii) strategic decision-making; (iv) competitor accounting; and (v) customer accounting. They argue that the first three groups align with the underlying theme of management accounting (costing, planning, control, performance management and decision-making), while the remaining two (competitor accounting and customer accounting) fall outside the purview of conventional management accounting but within the realm of SMA.

Table 1 reveals this study's conceptualisation of SMA techniques as adapted from prior studies. This is made up of 16 techniques from Cadez & Guilding's (2008) list, with the addition of three (3) techniques (ABC, ABM and Environmental Management Accounting in asterisks) based on the review of literature, making a total of nineteen (19) techniques.

Table 1: Customer Accounting as an Element of SMA Practice

Category		Technique	Description
Costing	1	Attribute costing	The costing of specific product attributes that appeal to customers such as operating performance variables; reliability, warranty arrangements, and after sales service
	2	Life cycle costing	The appraisal of costs based on the length of stages of a product s life including design, introduction, growth, maturity, decline and eventually abandonment
	3	Quality costing	Prioritising quality by identification and control of the costs associated with the creation, identification, repair and prevention of defects

	4	Target costing	A method used during product and process design that involves estimating a cost calculated by subtracting a desired profit margin from an estimated (or market-based) price. The product is then designed to meet that cost
	5	Value-chain costing	An activity-based approach where costs are allocated to activities required to design, procure, produce, market, distribute, and service a product or service
	6	Activity based costing*	A two-stage procedure used to assign overhead costs to products. In the first stage, significant activities are identified, and overhead costs are assigned to activity cost pools in accordance with the way the resources are consumed by the activities. In the second stage, overhead costs are allocated from each activity cost pool to each product line in proportion to the amount of the cost driver consumed by the product line
	7	Activity based management*	The use of information provided by an activity cost analysis (ABC) to improve organisational profitability
Planning, control and performance measurement	1	Benchmarking	The comparison of internal processes to an ideal standard.
	2	Integrated performance measurement	A measurement system which focuses typically on acquiring performance knowledge based on customer requirements and may encompass nonfinancial measures
	3	Environmental Management Accounting*	The practice of tracking, tracing and treatment of costs, earnings and savings incurred in relation to the company s environmental-related activities
Strategic decision making	1	Strategic costing (strategic cost management)	The use of cost data based on strategic and marketing information to develop and identify superior strategies that will produce a sustainable competitive advantage
	2	Strategic pricing	The analysis of strategic factors, such as competitor price reaction, elasticity, market growth, and economies of scale, in the pricing decision process
	3	Brand valuation	The financial valuation of a brand through the assessment of brand strength factors such as: leadership, stability, market, internationality, and trend, combined with historical brand profits
Competitor Accounting	1	Competitor cost assessment	The provision of regularly scheduled updated estimates of a competitor s unit cost
	2	Competitive position monitoring	The analysis of competitor positions within the industry by assessing and monitoring trends in competitor sales, market share, volume, unit costs, and return on sales

	3	Competitor performance appraisal	The numerical analysis of a competitor s published statements as a part of an assessment of a competitor s key sources of competitive advantage
Customer Accounting	1	Customer profitability analysis	Calculating profit earned from a specific customer based on costs and sales that can be traced to a particular customer
	2	Lifetime customer profitability analysis	Extending the time horizon for customer profitability analysis to include future years. The practice focuses on all anticipated future revenue streams and costs involved in servicing a particular customer
	3	Valuation of customers as assets	A technique that involves the calculation of the value of customers to the company. This may involve computing the present value of all future profit streams attributable to a particular customer

Source: Authors' Compilation (2019)

As enumerated in Table 1, CAT is one of the five broad categories of SMA practice. The three CAT usually covered in literature are Customer Profitability Analysis (CPA), Lifetime Customer Profitability Analysis, and Valuation of Customers as Assets (Kaplan & Cooper, 1998;Guilding & McManus, 2002; Holm *et al*., 2016).Customer [profitability] analysis relates revenues and costs to customers or to groups of customers to assess the relative profitability of providing goods or rendering services to customers. CPA involves calculating profit earned from a specific customer. The profit calculation is based on costs and sales that can be traced to a particular customer. This technique is, sometimes, referred to as customer account profitability (Cadez & Guilding, 2008).

Lifetime Customer Profitability Analysis involves extending the time horizon for customer profitability analysis to include future years. The practice focuses on all anticipated future revenue streams and costs involved in servicing a particular customer. Valuation of Customers as Assets involves the calculation of the value of customers to the company. For example, this could be undertaken by computing the present value of all future profit streams attributable to a particular customer (Cadez & Guilding, 2008).

The Usage of Customer Accounting as a Source of Competitive Advantage

The long-term orientation and the future outlook characterising SMA, including CAT, suggest that its application should enable organisations to both create and sustain competitive advantage (see Ryals, 2005; Kumar & Shah, 2009; Holm *et al*., 2016). Competitive Advantage, in the context of this study, refers to superior performance of an organisation over other organisations operating in the same industry. Studies have linked competitive advantage to organisational performance (see Porter & Millar, 1985; Barney, 2002; Kushwaha, 2011; Njuki, Okoth, Mutua & Mwangómbe, 2013).

Customer accounting may enhance the competitiveness of commercial enterprises because it considers the profits generated by customers and allows the organisation to focus its efforts on those customers who promise the highest profit (BPP, 2008). The profiling of customers to determine their relative length of patronage and profitability levels could be a competitive strategy to improve business performance. When a commercial enterprise identifies highly profitable customers through customer accounting systems, strategies can be implemented to retain their patronage in the long-term; such strategies may not have been formulated in the first place if the organisation had no prior knowledge on customer profitability. Likewise, identifying unprofitable and less profitable customers could also inform business strategy—the firm can embark on strategic initiatives that will turn such customers to highly profitable ones. Overall, the application CAT as a SMA technique is needed to classify customers into their level of commitment, profitability, and duration of patronage (short- or long- term), which informs marketing strategy. With these thoughts in mind, organisations implementing CAT may have more insights about customers' behaviour and could leverage on this knowledge to implement business plans that place them ahead of competitors. Given that an organisation is able to improve sales/ elevate customer patronage because of deploying CAT, this should translate into enlarged market share, improved profitability and enhanced shareholders' value creation and sustenance. Thus, the application of CAT as a management accounting innovation may bring about competitive advantage in terms of market share, profitability and shareholders' value creation (see International Federation of Accountants, IFAC, 1998; Roslender & Hart, 2002; Oboh & Ajibolade, 2017).

Usage of CAT was measured through a scale developed by the researchers, bearing in mind the aspects of SMA techniques that may be disclosed through annual reports. Unlike other categories of SMA practice (costing; planning, control & performance measurement; and strategic decision-making techniques) that are seldom disclosed in company documents available in the public domain, annual reports typically contain assertions on Customers'/Distributors' activities. Thus, the study focused on evaluating customer-based SMA techniques divulged in annual reports of study companies.

Three (3) measures of customer accounting were developed: (i) disclosure on tracking of turnover, cost, and profitability per customer; (ii) naming of major customers/ key accounts/ main distributors; (iii) discussion on activities of distributors in reaching customers or enhancing sales operations [this is premised on the philosophy that organisations could deploy superior distribution network and retail capabilities to increase customer engagement].The checklist was validated by three experts (a senior Academic specialising in Management Accounting and two well-experienced Management Consulting experts who are both ICAN (The Institute of chartered Accountants of Nigeria) and CIMA (Chartered Institute of Management Accountants, UK) qualified. The feedbacks obtained from the critiquing were used to sharpen the measurement instrument.

The annual reports of companies were content-analysed for disclosure in respect of these items and scored accordingly using the checklist. If disclosure was made in respect of an item, it is scored '1', and no disclosure is assigned '0'. In essence, the maximum score obtainable on the usage of CAT is 3.0. The use of the annual reports as a source of gauging the adoption of SMA was informed by the

consideration that such reports are mainstream in communicating financial and non-financial information to stakeholders. As annual reports are used to communicate governance issues of an entity, internal matters including the use of modern management accounting techniques are expected to flow into such documents (Ajibolade & Oyewo, 2017; Oyewo & Ajibolade, 2019). The aspects of the annual report containing information on customer accounting practice were: Company profile, Chairman Statement, Managing Director's or Chief Executive Officer's Report, Report of the Directors, Chief Finance Officer's review, and Standalone reports on activities of Strategic Business Units (SBUs). To ensure an extensive review and wide coverage of management accounting practice, the annual reports for the 10-year period was examined for each firm. The company's website was also visited to assess disclosure in respect of the research subject matter. Prior studies have used a similar approach of content-analysing annual reports to assess management accounting practice of companies (see Ajibolade & Oyewo, 2017).

Advantage of Sustainable Competitive

Sustainable competitive advantage, in the context of this study, refers to the ability of an organisation to consistently improve and maintain an above-sector-average performance in the medium- to long-term. Four dimensions of competitive advantage were investigated, including;

(a) Profitability (measured by Return on total Assets, ROA computed as Operating Profit (PBIT) relative to Total Assets (at the year-end);
(b) Shareholders' Value (Measured with Tobin's Q, calculated as Total Market Value of a firm relative to Total Asset (at the year-end);
(c) Market share (MKT SHR) computed as Company's Turnover in a period divided by Total Turnover in the Sector for the period multiplied by 100.
(d) Customer Patronage was measured using Company's Turnover (at the year-end).

Theoretical Framework

This study adopted Rogers' (2003) diffusion of innovation theory as theoretical framework. The theory was selected based on its appropriateness and interrelatedness in explaining the application of CAT as a management accounting innovation. As invoked in this study, the diffusion of innovation theory elucidates the factors affecting the adoption of customer accounting practice. CAT as a SMA practice could be considered as an innovation to the extent that it is different from TMA techniques. For this reason, Rogers' (2003) diffusion of innovation theory is relevant to the SMA adoption subject. Though contextually developed to explain technology diffusion and adoption, the diffusion of innovation theory has made inroads to other disciplines such as accounting, political science, public health, communications, history, economics and education (Medlin, 2001; Sahin, 2006).

Rogers (1983, 2003) postulates that the characteristics of innovations, as perceived by individuals anorganisations, help to explain their different rate of adoption. Rate of adoption is the relative speed with which an innovation is adopted by members of a social system. These qualities also determine the likelihood of the adoption of an innovation. Rogers (2003) identifies five predictors namely: (i) relative advantage, (ii) compatibility, (iii) complexity, (iv) trialability, and (v) observability.

(I) *Relative advantage*, to Rogers (2003, p. 229) is "the degree to which an innovation is perceived as being better than the idea it supersedes". An innovation is adopted if it is considered more advantageous than an existing practice.

(ii) *Compatibility* is "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters." (Rogers, 1983, p. 15). An idea that is not compatible with the values of an individual, organisation or social system will face a low adoption level in comparison to a practice that is compatible.

(iii) *Complexity* is the extent to which an innovation is perceived as being difficult to comprehend and apply. The complexity of an innovation, as perceived by members of a social system, is negatively related to its rate of adoption (Rogers, 1983, 2003).

(iv) *Trialability*: Rogers (2003, p.16) refers to trialability as "the degree to which an innovation may be experimented with on a limited basis". New ideas that can be tried on the instalment plan will generally be adopted more quickly than innovations that are not divisible.

(v) *Observability* is the degree to which the results (output or benefits) of an innovation-adoption is visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt (Rogers, 1983).

The contextualisation of the Rogers' (2003) theory to this study implies that CAT as a SMA practice is preferred over traditional management accounting system (which reports profitability on a product-by-product basis) because of its relative advantage in both creating and sustaining organisational competitiveness (Yazdifar & Askarany, 2010; Gholami, 2011; Pavlatos, 2011; Kraaijenbrink & Spender, 2011; Abdullah & Said, 2015; Oyewo & Ajibolade, 2019).

Review of Empirical Studies

Research on management accounting practice and management control system as an innovation abound (for example, Bisbe & Malagueño, 2009; Lu & Chen, 2010; Chiekezie, Egbunike, & Odum, 2014; Frezatti, Bido, Cruz & Machado, 2015). Chiekezie *et al*. (2014) invoked the diffusion of innovation theory to classify manufacturing firms using SMA techniques into adopters, partial-adopters and non-adopters, reporting that there is difference in performance among the three groups. They stated that adoption of SMA is influenced by perception of the usefulness of the innovation—firms perceiving it as very useful will fully adopt, while others considering it less useful will partially adopt or may not adopt it at all.

In spite of the perceived superiority of SMA over traditional management accounting (TMA), SMA still witnesses low adoption rate in comparison to TMA (see Pavlatos & Paggios, 2009; Fowzia, 2011; El-Deeb, 2012; Abogun & Abomide, 2013; Pitcher, 2015; Agu, Nweze & Enekwe, 2016). Fowzia (2011) observed that the adoption level of customer accounting in Bangladesh firms is low adoption. Pitcher (2015) noted, from the interview of 68 senior finance personnel across a range of sectors in the UK,

that key techniques used in strategy formulation include benchmarking, customer profitability analysis (at contribution margin level) and investment appraisal. However, usage rate of such techniques was noted to be low. El-Deeb (2012) unearths that SMA has not been used commonly in Egyptian healthcare industry except on a very narrow scale.

Literature reveals that there are still doubts on the essence of SMA, as little is known on the value its application adds to the organisation. *In spite* of the documented benefits of SMA usage, empirical evidence on its impact on organisational competitiveness is lacking. Studies on the benefits of SMA usage report mixed outcomes. While some scholars report a significant, positive association between SMA usage and perceived benefits (for example, Adler, Everett & Waldron, 2000; Sulaiman*et al*.; Abdullah & Said, 2015; Oyewo & Ajibolade, 2019), others report low benefits (see Hyvonen, 2005; Angelakis, Theriou & Floropoulos, 2010; Yap *et al*., 2013). Abdullah & Said (2015) lament that most of the empirical studies on SMA have concentrated on the nexus between adoption of some specific SMA techniques and firm performance, but limited studies have related SMA adoption to value-creation. Whilst studies by Sulaiman, Ahmad & Alwi (2004) found that management accounting practices help to create value, Mevellec & Lebas (2010) cited in Abdullah & Said (2015) contended that whereas many medium-sized firms are doing well with minimal application or no application of management accounting techniques in some instances, large-sized firms have been shown to respond slowly to implementing management accounting tools which result to underperformance of firms—the use of SMA may not deliver sustainable competitive advantage as anticipated. However some studies have shown that Customer-based SMA techniques can create considerable value by providing more relevant information that are required for the success of modern day organisations (Guilding, Cravens & Tayles, 2000; **Aboramadan & Borgonovi, 2016**; Ojua, 2017). After analysing data obtained from 105 senior staff across various industry sectors in Nigeria, Agu, *et al*. (2016) submitted that application of SMA would provide managers the information they need for assessing customers behaviour, and product pricing; and that SMA would enable managers to strategically position their products in the market.

The state of research on SMA in Nigeria still leaves much to be desired as the subject is yet to be rigorously investigated. Although some investigations have been conducted on sophisticated management accounting techniques, studies on TMA still dominate the management accounting literature, and paucity of study on SMA in Nigeria has been documented by scholars (Etim & Agara, 2011; Akenbor & Okoye, 2012; Abogun & Abomide, 2013; Oboh & Ajibolade, 2017). Acknowledging that some efforts have been made to unearth issues in SMA, little is known on the extent to which the application of customer accounting as a SMA practice could create and sustain competitive advantage in the Nigerian context.

Methodology

Population and Sample Selection

The population of the study is comprised of manufacturing companies listed on the main board (first-tier security market) of the Nigerian Stock Exchange (NSE). A sampling frame of all companies engaging in manufacturing activities was constructed based on the categories of industry sector provided by the NSE. Using this criterion, as at December 2017, seven industry sectors emerged in the categories of Agriculture (4), Consumer Goods (21), Healthcare (8), Industrial Goods (17), Conglomerate (5), Natural Resources (4), and Information & Communications Technology (3) making a total of 62 firms.

On the list, four firms have discontinued operations, one firm merged with another, and another firm is no longer engaged in manufacturing activities but trading business. These six (6) firms were excluded from the study, leaving a total of 56 firms in the categories of Agriculture (4), Consumer Goods (18), Healthcare (7), Industrial Goods (16), **Conglomerate (5),** Natural Resources (4), and Information & Communications Technology (2). All the 56 remaining firms were selected. Thus, the study applied a census survey. A census involves the inclusion of all elements of the population of a study in the sample selection. Since one hundred percent response rate is unlikely, the use of census survey is justified in this study to ensure the sample is large enough for statistical analysis.

Data-Collection Method

Data were collected from the annual reports of the fifty-six (56) study companies covering a 10-yearperiod (2008 to 2017). Since the companies are publicly quoted, their audited published accounts are widely circulated and are available in the public domain.

Method of Data Analysis

Statistical techniques applied to analyse data were descriptive statistics, and independent sample t-test.

Results And Discussion

Forms of Customer Accounting Practice

Result from the analysis of customer accounting practice of study companies are presented in Tables 4.1a and 4.2b.

Table 4.1.1a: Forms of Customer Accounting Practice by Quoted Manufacturing Companies in Nigeria

S/N	Companies	Tracking of Revenue, Cost & Profit per customer	Naming of Major Customers/ Key Accounts	Activities of Distributors in reaching Customers	Total
	Agriculture				
1	FTN COCOA PROCESS. PLC	1	1	0	**2**
2	LIVESTOCK FEEDS PLC.	0	0	0	**0**
3	OKOMU OIL PALM PLC.	0	0	0	**0**
4	PRESCO PLC.	1	1	0	**2**
	Consumer Goods				
1	7-UP BOTTLING PLC.	1	0	1	**2**
2	CADBURY NIGERIA PLC.	1	1	1	**3**
3	CHAMPION BREW. PLC.	0	0	0	**0**
4	DANGOTE FLOUR PLC	0	0	0	**0**
5	DANGOTE SUGAR PLC.	1	0	1	**2**
6	FLOUR MILLS NIG. PLC.	1	1	1	**3**
7	GUINNESS NIG PLC	1	0	1	**2**
8	HONEYWELL FLOUR PLC.	1	0	1	**2**
9	INTERN. BREW. PLC.	0	0	1	**1**
10	NORTH. NIG. FLOUR PLC.	0	0	0	**0**
11	NASCON ALLIED IND. PLC.	1	1	1	**3**
12	NESTLE NIGERIA PLC.	1	1	1	**3**
13	NIGERIAN BREW. PLC.	1	1	1	**3**
14	NIGERIAN ENAMEL. PLC.	0	1	0	**1**
15	PZ CUSSONS NIGERIA PLC.	1	1	1	**3**
16	UNILEVER NIGERIA PLC.	1	1	1	**3**
17	UNION DICON SALT PLC.	0	0	0	**0**
18	VITAFOAM NIG PLC.	0	0	1	**1**
	Healthcare				
1	FIDSON HEALTHCARE PLC.	1	1	0	**2**
2	GLAXO SMITH. NIG. PLC.	1	1	1	**3**
3	MAY & BAKER NIG. PLC.	1	1	0	**2**
4	MORISON IND. PLC.	1	1	1	**3**
5	NEIMETH PHARMA. PLC.	1	1	1	**3**
6	NIGERIA-GERMAN CHEMICALS PLC.	0	0	1	**1**
7	PHARMA-DEKO PLC.	0	1	1	**2**
	Industrial Goods				

1	AFRICAN PAINTS PLC.	0	0	0	**0**
2	AUSTIN LAZ & CO. PLC.	0	0	0	**0**
3	AVON CROWNCAPS & CONTAINERS PLC.	1	1	1	**3**
4	BERGER PAINTS PLC.	1	1	1	**3**
5	BETA GLASS PLC.	1	0	0	**1**
6	CAP PLC.	1	1	1	**3**
7	CEMENT COMPANY OF NORTH.NIG. PLC.	0	0	0	**0**
8	CUTIX PLC.	1	1	0	**2**
9	FIRST ALUMINIUM NIGERIA PLC.	1	1	0	**2**
10	GREIF NIGERIA PLC.	0	0	0	**0**
11	LAFARGE AFRICA PLC.	1	1	1	**3**
12	MEYER PLC.	0	0	0	**0**
13	PAINTS AND COATINGS MANUFACTURES PLC.	1	1	0	**2**
14	PORTLAND PAINTS & PRODUCTS NIGERIA PLC	1	1	0	**2**
15	PREMIER PAINTS PLC.	0	0	0	**0**
16	DANGOTE CEMENT PLC.	1	1	1	**3**
	Conglomerate				
1	A.G. LEVENTIS NIGERIA PLC.	0	0	0	**0**
2	JOHN HOLT PLC.	1	1	1	**3**
3	SCOA NIG. PLC.	0	0	1	**1**
4	TRANSNATIONAL CORP. OF NIG. PLC	1	1	1	**3**
5	UACN PLC.	1	1	1	**3**
	Natural Resources				
1	ALUMINIUM EXTRUSION IND. PLC.	1	1	0	**2**
2	B.O.C. GASES PLC.	1	1	0	**2**
3	MULTIVERSE MINING AND EXPLORATION PLC.	0	0	0	**0**
4	THOMAS WYATT NIG. PLC.	0	1	0	**1**
	Information & Communications Technology				
1	NCR (NIGERIA) PLC.	0	0	1	**1**
2	TRIPPLE GEE AND COMPANY PLC.	0	0	0	**0**

Source: Authors' Computation based on Analysis of Annual reports (2019)

Table 4.1.b: Distribution of Customer Accounting Techniques by Quoted Manufacturing Companies in Nigeria

S/N	Customer Accounting Technique	Number of Companies using the Technique	Number of Companies (%)
1	Tracking of Revenue, Cost & Profit per customer	33	58.93%
2	Naming of Major Customers/ Key Accounts	31	55.36%
3	Activities of Distributors in reaching Customers	28	50.00%

From the result in Table 2b, 33 (58.93%) firms engage in tracking revenue, cost & profit per customer; 31 (55.36%) firms venture into the practice of naming of major customers/ key accounts, while 28 firms (50.00%) disclose the activities of distributors in reaching customers. Based on this result, the most popular form of customer accounting practice among Quoted Manufacturing Companies in Nigeria is the tracking of Revenue, Cost & Profit per customer (research objective one). Meanwhile, while this is the most rudimentary form of customer accounting, the usage rate of this technique is still average. Other techniques such as (i) naming of key accounts and (ii) monitoring of activities of distributors in reaching customers, requiring higher degree of sophisticating recorded lower usage rate in comparison tracking customers' revenue, cost & profit. This suggests that, on the whole, customer accounting is less popular among quoted manufacturing companies in Nigeria.

Usage Rate of Customer Accounting Techniques

Results from the analysis of the usage rate of CAT are presented in Tables 3a to 3c.

Table 4.2.1a: Usage Rate of Customer Accounting Techniques

Score	Frequency	Percent	Valid Percent	Cumulative Percent
0	15	26.8	26.8	26.8
1	8	14.3	14.3	41.1
2	15	26.8	26.8	67.9
3	18	32.1	32.1	100.0
Total	56	100.0	100.0	

Table 4.2.1b: Usage Intensity of Customer Accounting Techniques

Intensity of CAT Usage	Frequency	Percent	Valid Percent	Cumulative Percent
Not intense	38	67.9	67.9	67.9
Intense	18	32.1	32.1	100.0
Total	56	100.0	100.0	

In Table 3a, 23 (41.1%) firms scored 0 to 1; 15 (26.8%) scored 2; while 18 (32.1%) scored 3. Firms were reclassified into non-intense users (firms with score of 0-2) and intense users ((firms with score of 3) based on their usage rate of CAT. As shown in Table 3b, 38 (67.9%) are non-intense users, while 18 (32.1%) are intense users.

Table 4.2.1c: Descriptive Statistics on the Usage Rate of Customer Accounting Techniques

			Statistic	Std Error
Customer Accounting Score	Mean		1.64	.160
	95% Confidence Interval for Mean	Lower Bound	1.32	
		Upper Bound	1.96	
	5% Trimmed Mean		1.66	
	Median		2.00	
	Variance		1.434	
	Std. Deviation		1.197	
	Minimum		0	
	Maximum		3	
	Range		3	
	Interquartile Range		3	
	Skewness		-.252	.319
	Kurtosis		-1.475	.628

In Table 3c, the Minimum value of CAT usage is 0, the maximum is 3, the Median is 2.00; the Standard Deviation is 1.197 and the Mean (M) is 1.64. The negative skewness coefficient of -.252 indicates that there are more data point concentrated to the left of the Mean (low usage rate). In essence, there are more low users of CAT than high users. Box plot in appendix 1 presents a visual representation of the distribution of the usage rate of CAT. There are more values at the lower part of the thick line (the thick line represents the Median, which is also the 50th percentile) than at the upper part; this corroborates the negative skewness earlier reported.

Table 4.2.1d: M-Estimators for CAT Usage Rate

	Huber's M-Estimator[a]	Tukey's Biweight[b]	Hampel's M-Estimator[c]	Andrews' Wave[d]
Customer Accounting Score	1.76	1.70	1.64	1.70

a. The weighting constant is 1.339.
b. The weighting constant is 4.685.
c. The weighting constants are 1.700, 3.400, and 8.500
d. The weighting constant is 1.340*pi.

The various M-Estimators, used to explore the Mean of the population, range from 1.64 to 1.76 (Table 3d). This is consistent with the Mean of 1.64 (Table 3b), which is an equivalent of 54.3% on the 3-point measurement scale. Based on the results in Tables 3a to 3d, it is concluded that the usage rate of customer-based accounting practice by manufacturing companies in Nigeria is average (research objective two). The result also corroborates the earlier submission that customer accounting is less popular among quoted manufacturing companies in Nigeria.

Impact of Usage of Customer Accounting on Sustainable Competitive Advantage

Impact of Usage of Customer Accounting on Sustainable Competitive Advantage in Terms of Profitability

Results from the comparison of profitability between (i) Intense and Non-Intense Users of CAT (Table 4a) and; (ii) Intense Users of CAT and Sector average (Table 4b), using independent sample t-test, are as presented.

Table 4.3a: Comparison of Profitability between Intense and Non-Intense Users of Customer Accounting Techniques

	Group	N	Mean	Std. Deviation	p value (t-test)
ROA 2017	Intense Users	18	11.8540	13.24459	.221
	Non-Intense Users	38	7.5545	8.67401	
ROA 2016	Intense Users	17	9.5516	10.55922	.236
	Non-Intense Users	36	6.1452	6.79484	
ROA 2015	Intense Users	18	12.7619	15.86383	.330
	Non-Intense Users	36	466.1513	2753.35453	
ROA 2014	Intense Users	18	14.1923	16.62517	.149
	Non-Intense Users	36	8.1386	5.45595	
ROA 2013	Intense Users	18	17.3180	14.67926	.013**
	Non-Intense Users	37	7.4890	5.40172	
ROA 2012	Intense Users	18	16.4874	13.56535	.018**
	Non-Intense Users	37	7.7423	7.52036	
ROA 2011	Intense Users	17	16.0448	11.26237	.025**
	Non-Intense Users	31	8.5182	8.95694	
ROA 2010	Intense Users	15	18.5142	13.23377	.020**
	Non-Intense Users	25	8.8204	8.81739	
ROA 2009	Intense Users	16	17.1007	12.36187	.043**
	Non-Intense Users	24	9.5216	8.52531	
ROA 2008	Intense Users	15	16.7769	11.14118	.173
	Non-Intense Users	22	11.5111	11.46861	

*** p value significant at 5%*

From the result in Table 4a, intense users of CAT consistently recorded higher mean score of ROA than non-intense users over the period (except in year 2015). The p values from t-test establish that the difference in the Mean score was statistically significant for the years 2009-2013. This implies that there is significant difference in profitability of intense and non-intense users of CAT.

Table 4.3b: Comparison of Profitability Between Intense Users of Customer Accounting Techniques and Sector Average

	Group	N	Mean	Std Deviation	p value (t-test)
ROA 2017	Intense Users	18	11.8540	13.24459	.402
	Sector	56	8.9365	10.43747	
ROA 2016	Intense Users	17	9.5516	10.55922	.417
	Sector	53	7.2378	8.24375	
ROA 2015	Intense Users	18	12.7619	15.86383	.328
	Sector	54	315.0215	2247.86969	
ROA 2014	Intense Users	18	14.1923	16.62517	.345
	Sector	54	10.1565	10.79865	
ROA 2013	Intense Users	18	17.3180	14.67926	.090*
	Sector	55	10.7058	10.43806	
ROA 2012	Intense Users	18	16.4874	13.56535	.106
	Sector	55	10.6043	10.62002	
ROA 2011	Intense Users	17	16.0448	11.26237	.131
	Sector	48	11.1838	10.37409	
ROA 2010	Intense Users	15	18.5142	13.23377	.132
	Sector	40	12.4556	11.54561	
ROA 2009	Intense Users	16	17.1007	12.36187	.209
	Sector	40	12.5532	10.76003	
ROA 2008	Intense Users	15	16.7769	11.14118	.371
	Sector	37	13.6459	11.48330	

** p value significant at 10%*

In Table 4b, intense users of CAT consistently recorded higher Mean score of ROA than Sector average over the period (except in year 2015). However, there was statistically significant difference in profitability in only year 2013. Overall, the results in Tables 4a and 4b lead to the conclusion that to a reasonable extent, the intense usage of CAT can create and sustain competitive advantage in terms of profitability (research objective three).

Impact of Usage of Customer Accounting on Sustainable Competitive Advantage in Terms of Shareholders' Value Creation and Sustenance

Results from the comparison of shareholder value between (i) Intense and Non-Intense Users of CAT (Table 5a) and; (ii) Intense Users of CAT and Sector average (Table 5b), using independent sample t-test, are as presented;

Table 4.3.2a: Comparison of Shareholders' Value between Intense and Non-Intense Users of Customer Accounting Techniques

	Group	N	Mean	Std. Deviation	p value (t-test)
TOBIN Q 2017	Intense Users	17	1.6378	2.15308	.808
	Non-Intense Users	36	1.9545	7.12850	
TOBIN Q 2016	Intense Users	17	1.2092	1.37608	.711
	Non-Intense Users	36	1 5959	5 90091	
TOBIN Q 2015	Intense Users	17	1.8007	2.10057	.322
	Non-Intense Users	36	49.8328	286.84094	
TOBIN Q 2014	Intense Users	17	2.1386	2.48206	.937
	Non-Intense Users	36	2.0384	6.71174	
TOBIN Q 2013	Intense Users	17	3.1558	3.26893	.225
	Non-Intense Users	37	1.8062	4.61082	
TOBIN Q 2012	Intense Users	17	2.1127	1.89509	.089*
	Non-Intense Users	37	1.1194	2.01484	
TOBIN Q 2011	Intense Users	17	1.5443	1.28189	.437
	Non-Intense Users	32	1.1148	2.54775	
TOBIN Q 2010	Intense Users	15	1.9137	1.55100	.369
	Non-Intense Users	28	1.3359	2.61809	
TOBIN Q 2009	Intense Users	15	1.3903	1.17439	.875
	Non-Intense Users	23	1.3012	2.26683	
TOBIN Q 2008	Intense Users	15	1.4549	1.19803	.451
	Non-Intense Users	21	1.9735	2.77110	

** p value significant at 10%*

In Table 5a, intense users of CAT recorded higher Mean score of Tobin's Q than non-intense users in some years (2009 to 2014), while non-intense users witnessed higher Mean score of Tobin's Q than intense users in other years (2008, 2015, 2016,2017). There was no significant difference in the Tobin's Q value all through the period except in year 2012.

Table 4.3.2b: Comparison of Shareholders' Value Creation between Intense Users of Customer Accounting Techniques and Sector Average

	Group	N	Mean	Std. Deviation	p value (t-test)
TOBIN Q 2017	Intense Users	17	1.6378	2.15308	.826
	Sector	53	1.8529	5.97088	
TOBIN Q 2016	Intense Users	17	1.2092	1.37608	.728
	Sector	53	1.4718	4.90437	
TOBIN Q 2015	Intense Users	17	1.8007	2.10057	.320
	Sector	53	34.4262	236.41681	

TOBIN Q 2014	Intense Users	17	2.1386	2.48206	.945
	Sector	53	2.0706	5.67610	
TOBIN Q 2013	Intense Users	17	3.1558	3.26893	.353
	Sector	54	2.2311	4.25050	
TOBIN Q 2012	Intense Users	17	2.1127	1.89509	.214
	Sector	54	1.4321	2.01457	
TOBIN Q 2011	Intense Users	17	1.5443	1.28189	.528
	Sector	49	1.2638	2.18690	
TOBIN Q 2010	Intense Users	15	1.9137	1.55100	.484
	Sector	43	1.5374	2.29911	
TOBIN Q 2009	Intense Users	15	1.3903	1.17439	.901
	Sector	38	1.3364	1.89186	
TOBIN Q 2008	Intense Users	15	1.4549	1.19803	.536
	Sector	36	1.7574	2.24262	

While intense users of CAT witnessed above-sector-average Tobin's Q in some years (2009 to 2014), their performance was below average in some other years (2008, 2015, 2016,2017) [Table 5b] . There was no significant difference in the Tobin's Q value all through the 10-year period between intense users and Sector average. In summary, results in Tables 5a and 5b establish that the usage of CAT may not sustain competitive advantage in terms of shareholder value creation and maintenance (research objective three).

Impact of Usage of Customer Accounting on Sustainable Competitive Advantage in Terms of Market Share

Results from the comparison of Market Share between (i) Intense and Non-Intense Users of CAT (Table 6a) and; (ii) Intense Users of CAT and Sector average (Table 6b), using independent sample t-test, are as presented;

Table 4.4.1a: Comparison of Market Share between Intense and Non-Intense Users of Customer Accounting Techniques

	Group	N	Mean	Std. Deviation	p value (t-test)
MKT SHR 2017	Intense Users	17	4.459835	6.4435340	.029**
	Non-Intense Users	35	690937	1 3126582	
MKT SHR 2016	Intense Users	17	4.374404	6.1695802	.028**
	Non-Intense Users	35	.732432	1.3852570	
MKT SHR 2015	Intense Users	18	4.236405	5.8181303	.020**
	Non-Intense Users	35	.678420	1.1791807	
MKT SHR 2014	Intense Users	18	4.231336	5.5660243	.016**
	Non-Intense Users	35	.681027	1.1564652	

MKT SHR 2013	Intense Users	18	4.198697	5.5785274	.017**
	Non-Intense Users	36	.678429	1.2654426	
MKT SHR 2012	Intense Users	18	3.983783	5.2569892	.020**
	Non-Intense Users	37	.764646	1.4566380	
MKT SHR 2011	Intense Users	18	3.826185	4.9804057	.023**
	Non-Intense Users	35	.840784	1.7064015	
MKT SHR 2010	Intense Users	16	4.362341	5.2926042	.025**
	Non-Intense Users	30	1.006751	1.9500141	
MKT SHR 2009	Intense Users	17	4.107275	5.0177737	.035**
	Non-Intense Users	25	1.207053	1.9766947	
MKT SHR 2008	Intense Users	17	3.918720	4.3997099	.041**
	Non-Intense Users	24	1.390907	2.2457424	

*** p value significant at 5% * p value significant at 10%*

Table 4.4.2: Comparison of Market Share between Intense Users of Customer Accounting Techniques and Sector Average

	Group	N	Mean	Std. Deviation	p value (t-test)
MKT SHR 2017	Intense Users	17	4.459835	6.4435340	.063*
	Sector	52	1.923077	4.1666836	
MKT SHR 2016	Intense Users	17	4.374404	6.1695802	.062*
	Sector	52	1.923077	4.0245171	
MKT SHR 2015	Intense Users	18	4.236405	5.8181303	.055*
	Sector	53	1.886792	3.8561009	
MKT SHR 2014	Intense Users	18	4.231336	5.5660243	.047**
	Sector	53	1.886792	3.7261343	
MKT SHR 2013	Intense Users	18	4.198697	5.5785274	.046**
	Sector	54	1.851852	3.7209098	
MKT SHR 2012	Intense Users	18	3.983783	5.2569892	.051*
	Sector	55	1.818182	3.5268286	
MKT SHR 2011	Intense Users	18	3.826185	4.9804057	.068*
	Sector	53	1.854694	3.4713646	
MKT SHR 2010	Intense Users	16	4.362341	5.2926042	.079*
	Sector	46	2.173913	3.7945706	
MKT SHR 2009	Intense Users	17	4.107275	5.0177737	.154
	Sector	42	2.380952	3.7667958	
MKT SHR 2008	Intense Users	17	3.918720	4.3997099	.180
	Sector	41	2.439024	3.4975101	

*** p value significant at 5% * p value significant at 10%*

The intense users of CAT consistently recorded higher Mean score of market share (MKT SHR) than non-intense users over the 10-year period, and the difference is statistically significant (Table 6a). Further, intense users of customer accounting witnessed above-sector-average market share all through the period; the extent of difference is also statistically significant for most of the years (2010-2017) [Table 6b].

To explore the extent to which the deployment of customer accounting affects market share, the performance of non-intense users of CAT was compared with Sector average. Result of the analysis is reported in Table 6c.

Table 4.4.3: Comparison of Market Share between Non-Intense Users of Customer Accounting Techniques and Sector Average

	Group	N	Mean	Std. Deviation	t-test (p value)
MKT SHR 2017	Non-Intense Users	35	.690937	1.3126582	.051*
	Sector	52	1.923077	4.1666836	
MKT SHR 2016	Non-Intense Users	35	.732432	1.3852570	.053*
	Sector	52	1.923077	4.0245171	
MKT SHR 2015	Non-Intense Users	35	.678420	1.1791807	.036**
	Sector	53	1.886792	3.8561009	
MKT SHR 2014	Non-Intense Users	35	.681027	1.1564652	.031**
	Sector	53	1.886792	3.7261343	
MKT SHR 2013	Non-Intense Users	36	.678429	1.2654426	.036**
	Sector	54	1.851852	3.7209098	
MKT SHR 2012	Non-Intense Users	37	.764646	1.4566380	.051*
	Sector	55	1.818182	3.5268286	
MKT SHR 2011	Non-Intense Users	35	.840784	1.7064015	.073*
	Sector	53	1.854694	3.4713646	
MKT SHR 2010	Non-Intense Users	30	1.006751	1.9500141	.083*
	Sector	46	2.173913	3.7945706	
MKT SHR 2009	Non-Intense Users	25	1.207053	1.9766947	.100
	Sector	42	2.380952	3.7667958	
MKT SHR 2008	Non-Intense Users	24	1.390907	2.2457424	.147
	Sector	41	2.439024	3.4975101	

*** p value significant at 5% * p value significant at 10%*

The non-intense users of CAT consistently recorded lower market share in comparison with industry average all through the 10-year period, and the difference in performance is significant in eight (8) out of the ten (10) years under investigation (i.e. 2010-2017). Based on the results reported in Tables 6a to 6c, it is concluded that, to a large extent, the use of customer accounting techniques can create and sustain competitive advantage in terms of market share (research objective three).

Impact of Usage of Customer Accounting on Sustainable Competitive Advantage in Terms of Customer Patronage

Results from the comparison of Customer Patronage (Turnover) between (i) Intense and Non-Intense Users of CAT (Table 7a) and; (ii) Intense Users of CAT and Sector average (Table 7b), using independent sample t-test, are as presented.

Table 4.5.1: Comparison of Customer Patronage (Turnover) between Intense and Non-Intense Users of Customer Accounting Techniques

	Group	N	Mean	Std. Deviation	p value (t-test)
TURNOVER 2017	Intense	18	147121689166	221409546539	.029**
	not intense	38	22228205981	44443359391	
TURNOVER 2016	Intense	17	119484180235	168518331720	.027**
	not intense	36	19450226012	37441762355	
TURNOVER 2015	Intense	18	103462955444	142092391117	.019**
	not intense	36	16108372337	28517984617	
TURNOVER 2014	Intense	18	98897077944	130092146026	.015**
	not intense	36	15475193364	26772361696	
TURNOVER 2013	Intense	18	91421997111	121466274826	.016**
	not intense	37	14372800804	27276555674	
TURNOVER 2012	Intense	18	73394107537	96850667588	.019**
	not intense	38	13716527083	26569290933	
TURNOVER 2011	Intense	18	63093608777	82126658324	.022**
	not intense	36	13479365655	27829689400	
TURNOVER 2010	Intense	16	60050694062	72856420781	.024**
	not intense	31	13411588681	26509251311	
TURNOVER 2009	Intense	17	52477135000	64110243750	.032**
	not intense	26	14828916346	24929386419	
TURNOVER 2008	Intense	17	38189220176	42876631130	.036**
	not intense	25	13012655622	21595539897	

*** p value significant at 5%*

Table 4.5.2: Comparison of Customer Patronage (Turnover) between Intense Users of Customer Accounting Techniques and Sector Average

	Group	N	Mean	Std. Deviation	p value (t-test)
TURNOVER 2017	Intense	18	147121689166	221409546539	.060*
	Sector	56	62372539862	141227291427	
TURNOVER 2016	Intense	17	119484180235	168518331720	.056*
	Sector	53	51536588687	109103952844	
TURNOVER 2015	Intense	18	103462955444	142092391117	.050*
	Sector	54	45226566706	93492884235	
TURNOVER 2014	Intense	18	98897077944	130092146026	.042*
	Sector	54	43282488224	86472215734	
TURNOVER 2013	Intense	18	91421997111	121466274826	.042*
	Sector	55	39588901413	80448959991	
TURNOVER 2012	Intense	18	73394107537	96850667588	.046*
	Sector	56	32898606515	64537559373	
TURNOVER 2011	Intense	18	63093608777	82126658324	.061*
	Sector	54	30017446696	56852586605	
TURNOVER 2010	Intense	16	60050694062	72856420781	.070*
	Sector	47	29288730938	51848116381	
TURNOVER 2009	Intense	17	52477135000	64110243750	.138
	Sector	43	29713095814	47776330377	
TURNOVER 2008	Intense	17	38189220176	42876631130	.160
	Sector	42	23203169846	33865356669	

** p value significant at 10%*

The intense users of CAT consistently recorded higher Mean score of Turnover than non-intense users over the 10-year period, and the difference is statistically significant (Table 7a). Further, intense users of customer accounting witnessed above-sector-average Turnover in eight out of the ten years, and the extent of difference is also statistically significant for almost all the years. Based on the results reported in Tables 7a and 7b, it is concluded that, to a large extent, the use of customer accounting techniques can create and sustain competitive advantage in terms of customer patronage (research objective three).

Conclusion

This study investigated the use of CAT as a source of sustainable competitive advantage, with a focus on the manufacturing sector in Nigeria. It was observed that the most popular form of customer accounting practice among quoted manufacturing companies in Nigeria is the tracking of revenue, cost & profit per customer (research objective one). Meanwhile, while this is the most rudimentary form of customer accounting, the usage rate of this technique is still average. Other techniques such as (i)

naming of key accounts and (ii) monitoring of activities of distributors in reaching customers, requiring higher degree of sophisticating recorded lower usage rate in comparison tracking customers' revenue, cost & profit. This suggests that, on the whole, customer accounting is less popular among quoted manufacturing companies in Nigeria. It was also observed that the usage rate of customer-based accounting techniques is average (research objective two). Furthermore, it was discovered that the intense users of CAT recorded superior performance in terms of profitability, market share and customer patronage (research objective three). This observation corroborates arguments in literature that the deployment of SMA techniques can reinvigorate organizational performance (for example, Adler, et al., 2000; Sulaimanet al.; Abdullah & Said, 2015), and also contributes to the discourse on the relevance of customer accounting as a source of competitive advantage (Guildinget al., 2000; Aboramadan & Borgonovi, 2016; Ojua, 2017). The result that intense usage of customer accounting sustains competitive advantage also validates relative advantage as an innovation characteristic affecting the diffusion of management accounting innovation as posited by Rogers' (2003) diffusion of innovation theory. However, the study found no evidence to support the supposition that the deployment of CAT can sustain shareholders' value creation. This study has contributed to knowledge by providing empirical evidence on the essence of combining marketing data with accounting data to improve the competitiveness of commercial organisations. It has also provided evidence on the importance of market orientation in sustaining competitive advantage.

Seeing that the overall usage rate of SMA by the study companies was average, the inability of manufacturing companies in Nigeria to favourably compete at the international market may not be unconnected to the unappreciable level of customer accounting implementation, among other challenges. Following empirical findings that customer accounting system is a source of competitive advantage, organisations seeking strategies to improve their competitiveness may consider the extensive application of CAT to gain and sustain competitive advantage especially in the dimensions of profitability, market share and customer patronage. Low usage of customer accounting may be due to the newness of the technique in the accounting literature and the technicalities involved in applying the methods. To shore up the awareness level of CAT, it is recommended that the curricula of academic and professional accounting programmes be revised to contain SMA themes. This will equip accountants early enough with knowledge and help them integrate core accounting skills with commercial awareness.

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APPENDIX 1: BOX PLOT ON USAGE RATE OF CUSTOMER ACCOUNTING TECHNIQUES

