THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Mitigating the Impact of Globalization on Manufacturing Firms in Nigeria with the Implementation of Strategic Management Accounting Techniques

Ojua, Olusegun Michael
Ph.D. Student, Department of Accounting, Covenant University, Nigeria

Abstract:
Globalization- a worldwide phenomenon impacting on socio-political, economic and technology aspects of the world, making manufacturing firms face fierce competition due to the presence of global products, hence creating the need to have contemporary management tools that assist in decision making. The goal of this research paper was to ascertain the extent of use of Strategic Management Accounting Techniques (SMATs) and how it can assist in reducing the competition scourge that create panic among local manufacturing firms. Using a sample of fifty manufacturing firms with senior management executives and accountants directly involved in running the organizations as respondents to how twelve selected SMATs are applied, and using questionnaires to gather primary data-Correlation Coefficients were calculated, mean, ranking and standard deviation were estimated to enable conclusions made. The first hypothesis after analysis showed co-efficient ranging from 0.156 to 0.530 indicating positive relationships among the various methods of SMATs and firms' performance in a competitive environment while the second hypothesis confirmed the existence of challenges in the adoption and implementation of SMATs among manufacturing firms with use of simple statistical tools and z-statistics. The results indicated limited application of SMATs like the use of target costing, activity base costing, value chain costing and benchmarking among sampled firms. The findings of the study have implications for the firms' managements as they revealed the partial application of SMATs depriving the firms the benefits of full usage. It recommended among other options that management should encourage personnel training and resolve institutional deficiencies that create impediments to SMATs implementation to forestall being swept away by globalization.

Keywords: *Globalization, manufacturing firm, resources utilization, strategic management accounting, SMA techniques, traditional management accounting*

1. Introduction

Globalization is the spread of free market capitalism to every country in the world (Moore and Lewis, 2009). In terms of business management it is the fusion of different cultures and economic systems around the world for the purpose of trading because of the influence of large multinational firms and improved communication (Hornby, 2005) .These firms manufacture and sell their products in other parts of the world reflecting little or no difference to the home product by establishing new plants in the foreign country for economic reasons as sending finished products would make it expensive in the other country (Okoye and Nwaigwe,2015).Globalization encourages bigger trade volume and healthy competition among different firms globally in different economies, leading to lower prices, greater efficiency in resource allocation and higher economic growth. It provides economic independence and triggers competition for the attention of discerning customers hence increasing not only demand but greater utilization of opportunities to make profit (Chai-Amonphaisal and Ussahawanitchakit, 2010;Cadez & Guilding, 2008; Sidhu & Roberts, 2008;Danneels, 2002). Due to the level of competition, globalization has disarticulated the industrial sector of most countries because of cost production which has become high in most of the developing countries due to the almost free entry and exit of global firms, also in the lack of government incentives to encourage local products through high importation, currency devaluation and depletion of foreign reserve as placed heavy burden on the local manufacturing firms (Okoye and Nwaigwe, 2015;Toyo, 2000).The level of business competition among entities is not only fierce but engaging due to the impact of globalization and customers sophistication, making lifecycle of products shortened due to consumers' multiple choices hence increasing the need for business managers to work harder to develop less opportunity of new products to recover costs and earn returns before the decline of the product (Chai-Amonphaisal and Ussahawanitchakit, 2010;Cadez & Guilding, 2008; Sidhu & Roberts, 2008;Danneels, 2002).

The manufacturing sector has been the pivot of Nigeria economy as it contributed 39.67% to the Gross Domestic Product (GDP) in 2011(Oyerogba, 2015).Securities and Exchange Commission (SEC) in its 2012 annual report stated that the

manufacturing sector remained one of the major employers of labour and a ready market for the products of the agricultural sector of the economy (Oyerogba et al, 2014). With such attributes the performance of manufacturing firms cannot be overlooked, it is important for the managements of the sector to have a scientific system that ensure sustainable performance which will impact on the economy of the nation. The survival of manufacturing firms adds value the economy, apart from employment, exports to other countries bring in foreign exchange that have multiplier effects on the populace. Globalization has imposed constraints on the internal management dynamics of Nigerian manufacturing firms (Okoye and Nwaigwe, 2015; Toyo, 2000), making decision process difficult given that traditional management accounting (TMA) techniques are not strategic enough for decision making and resource allocation (Ojua,2016 ; Ojra,2014;Achimugu & Ocheni, 2015;Ahmad & Leftesi,2014; Akenbor& Okoye, 2012; Abdel-Kader & Luther, 2008). The deployment of resources to appropriate areas of need by management depends on the quality of information(Ojua,2016a).Available Information is the fuel that moves management thoughts and actions, hence where such information is not relevant, reliable and accurate, management would not be able to formulate and implement business strategies for competitive edge (Akenbor& Okoye, 2012). While TMA tools explore internal data for decision making (which is obsolete for today's competitive business environment due to globalization),the adoption and implementation of Strategic Management Accounting (SMA) tools which explore and scan both internal and external business and socio-economic environment for effective business decisions is advocated due to the ability of the tools to give insights into information about competitors (Ojua,2016b; Ojra,2014;Ahmad and Leftesi,2014; Akenbor and Okoye, 2012; Ojra,2014;Aziz,2012).

SMA Techniques collect competitor's information, exploits cost reduction opportunities (strategic cost analysis), match accounting emphasis with strategic position (market analysis), and strategic evaluation of current situation (Lord, 1996; Dixon & Smith, 1993).SMA is focused on a firm's performance relative to competitors, it provides and analyses financial and business information, products, and cost structure of the firm, as compared to competitors through monitoring over a period of time from which decisions especially pricing, costing and product competitiveness are taken.It assists firms to have edge over competitors that operate in same or similar industry and the economy as a whole (Alsoboa, Nawaiseh, Karaki and Khattab, 2015; Ojra, 2014).SMA accomplish the following when implemented fully: provision of information for decision-making; planning and participating in decision-making and strategic planning process; assisting in the direction and control of operational activities; motivating managers and other users towards the goals and objectives of the organization; and evaluation of competitive situation of the organization (Cadez and Guilding, 2008; Chenhall, 2008; Hilton,1999).

The adoption and implementation of SMATs among manufacturing firms is still evolving in developing countries unlike developed nations (Egbunike, Ogbodo and Onyali, 2014; Fagbemi, Abogun and Uadiake, 2013; Ojua, 2016; Ojra, 2014; Akenbor& Okoye, 2012; Ajibolade, 2008) due to continuous reliance on traditional management accounting tools (Fagbemi et al, 2013; Ojra, 2014; Egbunike et al,2014;Tillmann & Goddard,2008;Al-Maryani & Sadik,2012; Cadez & Guilding,2012; Holloway,2006;Abdel-Kader & Luther, 2008).

This paper investigates the extent to which manufacturing firms in Nigeria use SMATs to reduce the negative impact of globalization on their activities. Ojra (2014) and Aziz (2012) reportedthat the use of SMA techniques is affected by perceived environmental uncertainty (violate business environment), organizational technology(application of contemporary tools) and size of the firm (larger firms are more likely to adopt it).SMATs usage have direct positive association with operational performance of firms (Ojua, 2016; Fagbemi et al, 2013; Ojra, 2014; Al-Maryani & Sadik, 2012; Cadez & Guilding, 2012; Holloway, 2006; Abdel-Kader & Luther, 2008) making the firms to remain in the marketplace.

This study is important for three reasons. First, globalization has made competition extremely high among firms locally and internationally leading to business failures hence the need to explore the SMATs option since traditional management accounting techniques are ineffective (Ojua, 2016; Okoye and Nwaigwe, 2015; Egbunike et al, 2014; Rababa'h, 2014; Akenbor & Okoye, 2012; Toyo, 2000). Second, the steady decrease in the output of manufacturing firms to the national economy (Oyerogba et al, 2014) has created a need for management to have scientific tools that will not only aid decision for effectiveness but also revive the ailing sector to avoid being left behind by global competitors .Lastly, the relationship between the adoption and implementation of SMATs and the gains thereon to firms have resulted in mixed research findings (Ojra, 2014;Ahmad & Leftesi, 2014; Ramljak& Rogosic, 2012; Mbawuni & Anertey, 2014; Fagbemi et al, 2013; Aziz, 2012; Al-Maryani & Sadik, 2012; Cadez & Guilding, 2012; Holloway, 2006; Abdel-Kader & Luther, 2008). In covering this research gap, this paper makes key contributions to the literature on the subject matter. It provides evidence on the desirability of using SMATs for mitigating the impact of globalization on the operation of manufacturing firms as compared to other unconventional tools and therefore have potential implications for business policy-makers and the extent to which SMA informationaffect the viability of manufacturing firms. Hence this study gives new insights into the relationship between SMATs and business sustainability in the manufacturing sector.

The research questions on which this paper attempts to provide answers to are:

- Is there any positive association between the adoption and implementation of SMATs among manufacturing firms in Nigeria and performance in globalization period?
- Are there inherent challenges inhibiting the effective application of SMATs among Nigeria's manufacturing firms in a globalized environment?

The rest of the paper is divided into four parts. Part 2 discusses the literature part 3, the methodology. Part 4 explains the analysis and implications of findings while part 5 is the conclusion and recommendations.

2. Literature Review

2.1. Strategic Management Accounting Techniques and Competition

Globalization is a leading concept cum phenomenon that affects the economy, business life, society and environment in different ways with changes, virtually all organizations especially business firms have been affected by these changes (a greater focus on the customer, shifts in the basis of competition, advances in the manufacturing and information technologies and finally new forms of management organization) which are obvious(Hammer and Champy, 1993).These changes are related to increased competition and the rapid changes of technology and information transfer. To challenge these changes, companies need to keep in mind various aspects of the main effects of globalization. This competition is linked to product and service cost and price, target market, technological adaptation, quick response, quick production by firms. When firms produce at relatively less cost, they are able to sell at relatively cheap price increasing its market share hence able to fight competition. Global market requirements involve satisfying customers' preferences in order to reduce the negative impact of competition.

Prior to the advent of globalization, TMA was in vogue and applied on business activities but with competition its limitations became obvious (Ojua,2016a; Ojra,2014;Yap et al, 2013) and inadequate. Hence the need to have a technique or group of techniques that assist management to complete effectively in the marketplace. The inability of TMA to meet up with the dynamics of contemporary business challenges is seen in its reports which is either too late, too distorted or unevenly aggregated hence not good enough for strategic management due to its lack of focus on strategic planning but only on inventory evaluation; it places emphasis on financial measures ignoring the non-financial ones; TMA focuses on production activities and not on sub-activities; fails to consider associative relationships with suppliers, customers, competitors and other operational activities; considers costs and quantity with little emphasis on quality and macroeconomic indices; decisions taking are short term (tactical) and not strategic enough for the long term goal of the firm and performance measurement (Yazdifar,2003).These pitfalls created the evolution of SMA which explores and scans both internal and external business and socio-economic environment for effective business decisions (Ojra,2014; Ahmad & Leftesi,2014;Akenbor&Okoye, 2012;Aziz,2012).The three key words among scholars about SMATs are: effective decision, process and competition (Al-Maryani & Sadik, 2012; Cadez & Guilding, 2012;Tillmann & Goddard, 2008;Abdel-Kader & Luther, 2008; Holloway, 2006).According to Hammer and Champy (1993) explaining business competition stated that "in today's environment, nothing is constant or predictable - not market growth, customer demand, product life cycles, the rate of technological change, or the nature of competition.SMATs encourage the positive performance of firms by assisting them to obtain reliable management accounting information to make better decisions for their performance and competitiveness (Bromwich &Bhimani, 1989).

Guilding et al. (2000) applied twelve (12) SMATs to business situation and concluded that most firms adopted competitor accounting and strategic pricing due to their viability in making decision and being competitive. Rostami (2015) explained in his research work that most banks adopted competitor analysis and SWOT analysis to enable them compete well in a saturated financial market and evaluate their activities stating that others Mats are not required.Baines and Langfield-Smith (2003) reviewed the association between change in the competitive environment, and a range of organizational variables as antecedents to management accounting change and returned that there is a need for a change in MA perspective in order to meet up with competition.Mia and Clarke (1999) posited that MA change only indicate the moderating role of the use of management accounting information on the relationship between the intensity of market competition and business unit performance, and not the effect on firm performance.Tillema (2005) reviewed the desirability of using advanced costing techniques and returned that such adoption depend on the circumstances in which these techniques are being used thus given rise to the need for a contingency theory which considers the business environment particularly competition.

Chenhall and Lang field-Smith (1998) in an Australian study discovered strong relationship between SMATS and business performances especially where competition is high creating a link between competition and performance. Al-Mawali (2015) review SMAT usage by firms within environmental uncertainty caused by competition and business performance, he returned that the level of SMA usage positively affect business performance but environmental uncertainty moderate the relationship dwarfing the supposed benefits of the usage. Şener and Dirlik (2012) in a Turkish review of the relationship between SMATs adoption to fight competition among one thousand sampled firms between the adoption of SMAT and the performance returned a midpoint association indicating that SMATs usage makes little or no difference in the performance of the firms.Ramljak and Rogosic (2012) in a Croatia review of SMAT usage asserts that the techniques are complementary and their combined effect is useful for cost control especially among large firms using Activity Based Costing (ABC).Cadez and Guilding (2012) examined the effect of strategic choices, market orientation, and company size on two distinct dimensions of SMA and, in turn impact on company's performance by using sample of one hundred and ninety three Slovenian firms and found that factors like firm size and strategy have a significant effect on the use of SMATs.

Dugdale (1994) reviewed general management accounting practices among manufacturing organizations; he discovered that budgeting is highly important for cost control and performance evaluation in most organizations. He averred that budgeting as a tool of management accounting provides the opportunity for firms to plan,control and direct the affairs of the firm given available scare resources making goal setting attainable. Hilton (1999) explained the benefits of adopting SMATs from decision making, control purpose, performance measurement and evaluation of competitive edge creating an edge over the traditional MA that is more of cost control and internal evaluation.Tillmann (2003)explored the use of SMA and

SMA processes among multinational firms using the case study of a large firm in Germany with bias for organizational context and returned the conclusion that a link exist between the use of SMA and general performance of business firms.Salawu et al (2012) in a Nigerian manufacturing firm's survey reveal that TMA techniques are deficient in terms of improving global competitiveness and therefore cannot improve the performance of manufacturing firms in a saturated market thus advocating for advanced costing techniques that will resolve the challenge of globalization. Fagbemi et al (2012) in another Nigerian study revealed that traditional MA techniques are inadequate and have no significant association with the performance of manufacturing firms because they are outdated and cannot be relied on to make decisions because they are not competitive like advanced costing techniques. Conversely, Alsoboa et al (2015) in a study of SMA adoption in Jordan reveal that twelve out of the nineteen acknowledged SMA techniques were adopted by Jordanian firms but no appreciable impact on general and financial management was found in such adoption hence no impact on performance. Santini (2013) using SMA application in Small and Medium Enterprises(SMEs) in Europe discovered a higher than expected usage with wide usage across productive sectors of the economy showing that SMEs which operate in high-complexity environment use SMA techniques more extensively to achieve higher financial performance. Sarokolaei and Rahimi poor (2013) in an Iranian survey relating to the type of relationship between SMATs and competition found obstacles in adopting SMATs to include the impracticability to assign competitive price, rareness of the costumers' satisfaction idea, lack of group work spirit, and the non- utilization of the target costing system and value engineering. It concluded that SMATs implementation is possible only in a competitive environment. .Randall and Ulrich (2001) found evidence that firm performance is positively associated with correctly matching supply chain strategies to product variety strategy.

Despite the empirical evidence of SMATs adequacy in assisting management to take decisions in competitive environment brought about by globalization (Yap et al,2013;Aziz,2012;Abdel-Kader & Luther, 2008) several firms especially the manufacturing ones across economic divides have either deliberately ignored the application and implementation of it due to human and capital deficiencies, size or inability to adopt it due to other peculiarities associated with their countries (Dik,2011;Chenhall, 2003).The lack of interest in the application and implementation of SMATs include but not limited to the relative inadequate information about the use of SMA especially by indigenous manufacturing firms especially the gap between SMA literature and practice is wide with different tools advocated by different scholars creating confusion in the industry on which one that constitute SMATs (Ojua,2016a;Fagbemi et al,2014);paucity of experienced personnel due to poor training of accounts staff (Egbunike et al,2014);the huge cost putting in place an effective accounting structure that will include SMA (Shank, 2007); management perception of the use of SMATs (Ojua,2016b);inter departmental rivalry on the preparation of SMA reports(Fagbemi et al,2014); macroeconomic indices and cultural interference (Abdel Al and McLellan,2011;Chenhall, 2003); most education institutions and accounting professional training bodies do not offer SMA in their accounting curriculum instead the traditional MA techniques are still in vogue hence a labour gap (Fagbemi et al 2013; Akenbor& Okoye, 2012) and reliance on the rule of thumb and business expertise in decision making(Akenbor & Okoye,2012).The continued application of management accounting tools is depriving the management of these firms of the multiple benefits of SMA (Holmes and Nicholls,1989).

Given the various scholarly works (though still at the conceptual stage) of researchers particularly Guilding et al. (2000), Cravens & Guilding (2001) and Cadez & Guilding (2008) five categories of SMATs namely costing; planning, control and performance; strategic decision making; competitor accounting and customer accounting are explored in this research, hence adopting the principle applied by Cadez & Guilding (2008) the following classifications will be used with modifications. See table 1 for details

Classification of SMATs	Types
(A) Costing	1. Attribute Costing
	2. Activity Base Cost/Management
	3. Life Cycle Costing
	4. Quality Costing
	5. Target Costing
	6 .Value-Chain Costing
	7. Kaizen Costing
(B)Planning, Control &Performance Measurement	8 .Benchmarking
	9. Integrated Performance Measurement (Balance Score Card)
(C) Strategic Decision Making	10. Strategic Pricing
	11. Brand Valuation
	12. Brand Budgeting
	13. Social Management Accounting
	14. Environmental management Accounting
	15. Competitor cost assessment

Classification of SMATs	Types
(D) Competitor Accounting	16 .Competitor's position monitoring
	17 .Competitor performance appraisal
	18. Customer profitability analysis
(E) Customer Accounting	19. Life customer profitability analysis
	20. Value of customer as asset
	21 .Total Quality Management (TQM

Table 1: Classification of Strategic Management Accounting Techniques
Source: Modification of Cadez & Guilding (2008)

Globalization breeds competition which makes a firm focus more on cost control mechanism, performance measurement and proper understanding of the operation of competitors. Hence this paper will focus on costing, performance measurement and competitor accounting classes of SMATs as it relates to manufacturing firms.

(i)Activity Base Costing (ABC):ABC is a SMA technique that assigns resource costs to cost objects such as products, services, or customers based on activities performed for the cost object (Blocher et al, 2012). This technique assumes that products consume activities, and activities consume resources that are activities are based on cause-and-effect relationship with cost (Alsoboa et al, 2015). It gives managers clarity on how products, brands, customers, facilities, regions, or distribution channels both generate revenues and consumes resources (Cooper and Kaplan, 1991). ABC assist firms to get accurate information on how products, customers, or supply chains influence costs and contribute to overall profitability. The benefits of applying this techniques on business activities include increasing the accuracy of cost allocation to products (Ittner et al., 2003); improving the ability of an analyst to estimate the cash flow; improved management information and improved profitability; and enhancing its usefulness to strategic decision-making (Adamu and Olotu, 2009). (ii) Attribute costing: It combines cost and strategic information for effective application of the tool (Šoljaková, 2012), the costing concept covers operating performance variables, reliability, warranty arrangements, the degree of finish and trim, assurance of supply and after sales service (Guilding et al., 2000) (iii) Kaizen costing technique is the application of tested model specifically to reduce costs; it focuses on making production and service delivery processes more efficient (Blocher, Chen and Lin, 1999).It is applied during the production stage of the product life cycle to enable the firm sustain the cost and make good returns on investment. There are two types of kaizen costing-product-specific and general (Cooper and Slagmulder, 2004).Kaizen costing is a technique that supports the cost reduction process in the manufacturing phase of the existing products (Cooper and Slagmulder 1997a). (iv)Life cycle costing: This tool helps to figure out the size of the cost of production in the phases of product development. It provides ways of reducing cost and in dicate ways to value profitability accurately. In general, these phases mayinclude design, Introduction, growth, decline and eventually abandonment. LCC estimates all the costs involved in procuring, operating, maintaining and disposing (abandonment) a product throughout its life (Jagtap, 2013).The aim is to test if expected revenue from a product from inception will cover the pre and post manufacturing costs. Woodward (1997) explained that this tool is concerned with optimizing the total costs in the long run by estimating the costs in advance and monitoring same to ensure compliance (v) Benchmarking: This tool is an evaluation technique and performance of a company indicating an ideal standard or best practices that could be achieved (Cadez & Guilding, 2008; Cinquini & Tenucci, 2010), the aim is to make the firm achieve its goals through gradual measurable improvement; it underlines the external strategic orientation toward competitors, the set standards are usually based on industrial yardstick obtained from related competitors (Cravens & Guilding, 2001). It is more of "see what others companies do and try to improve upon that."The objective is to improve organization's performance and competitiveness in the marketplace.(vi) Competitors' Position Monitoring (CPM): is the analysis of competitors positions within the industry by assessing and monitoring trends in competitors sales, market share, volume, unit costs and return on sales. It aims at gathering the information on competitors regarding their edging factors. Based on the information provided, the company is able to assess its own position relative to main competitors and thereafter, formulate strategies to attain such .This information provides the basis for the assessment of a competitor's market strategy (Cinquini and Tenucci, 2010; Guilding et al., 2000). (vii) Competitor cost assessment (CCA): CCA is the provision of regularly updated estimate of competitors' cost structures by a firm in the marketplace. CCA main proponents are Bromwich (1990), and Porter (1980).The provision of regularly scheduled update estimate of a competitor unit cost. Such information could derive from different sources (direct observation, common suppliers or customers or competitors, ex-employees (Cinquini and Tenucci, 2010). Jones (1988) explained that CCA is a systematic approach involving appraisal of competitors' manufacturing activities, economies of scale, governmental relationships, and technology-product design. (viii) Competitor performance appraisal based on published financial statements: It is financial and numerical analysis of a competitor's published financial statements as a way of an assessment of a competitor's key sources of competitive advantage (Cinquini and Tenucci, 2010). Moon and Bates (1993) underline the strategic insights that it is possible to obtain from this type of analysis. The technique, which represents an elaboration of common and traditional methods, allowing for a simpler comparison between companies of different countries. Hesford (2008) explained that monitoring the competitors' financial statement has a positive association with return on investment, economic value-added, innovation, market share, service quality, efficiency and customer satisfaction. The technique serves dual purposes first, it is used to validate competitor cost estimates and also to evaluate competitors' position and strength (Hesford, 2008) (ix) Integrated performance measurement systems(otherwise

called Balance scorecard):is a strategic planning and management tool used by organizations to align business activities to the vision and strategy of the organization (Effiong and Beredugo, 2015; Kaplan and Norton, 1998).) by combining financial and non-financial measures (quantitative and qualitative factors) in defining corporate performance. It is a management system that enables organizations to clarify their vision and strategy and translate them into action. It provides feedback around both the internal and business processes and external outcomes in order to continuously improve strategic performance and results. BSC include strategy formulation that serves as a tool for defining strategic objectives and communicating them throughout the organization. (x) Quality Costing (QC): QC is the sum of the price paid for preventing poor quality and the cost incurred due to product and service failure. It is a tool of analysis for ascertaining the performance of a firm in a competitive environment (Doneplan and Kaplan, 1998).Thecosts are estimated or fixed based on selective information obtained periodically, decisions are not based on quantitative factors. Quality costs can be classified into three categories: prevention (for non-conformance to set standards), appraisal and failure costs. (xi) Target costing is applied during the design stage, it serves as a solution when developing new products, minimizing costs through optimal use of all resources (Shank and Fisher, 1999). (xii)Value Chain Costing:It is a process which examines all activities of a firm, and how such interact for improving cost position, efficiency and customer value. Donelan and Kaplan (1998) explained that value chain analysis is focused on improving the strategic activities of the company, trace costs to value chain activities, and use the activity-cost information to manage the strategic value chain activities better than other companies in the industry. Value chain analysis decomposes firms into strategically important activities and understand their impact on the cost and value (Hergert and Morris, 1989).

Based on the foregoing, the following hypothesis is proposed:

- **H_o**There is no positive association between the use of SMATs among manufacturing firmsin Nigeria and performance during globalization
- **H_o**There are no inherent challenges hindering the effective application of SMATs by manufacturing firms to mitigate the impact of globalization.

3. Research Methods

The survey research method was adopted in this study .This study was designed to investigate the extent to which manufacturing firms in Nigeria use SMATs to reduce the negative impact of globalization on their activities management**.** Survey research is the identification of the real nature of problem and formulating relevant hypothesis to be tested for confirmation. Data were obtained from senior management staff and experienced accountants of manufacturing firms in Agbara Industrial Estate zone of Ogun State of Nigeria. Sampled firms were recognized through information gathered from Manufacturers Association Nigeria (MAN), Ogun State branch, register available in their secretariat. The collected data were analyzed statistically to establish the findings. Agbara Industrial Estate was chosen because of the concentration of several manufacturing firms both indigenous and multinational and the need to have enlightened respondents.

3.1. Sampling Procedure

The participants/firms were selected by random sampling. Random sampling was adopted because it is the best way to obtain a representative sample from the population. Owojori (2002) explained that in random sampling all the members of the population have equal chance of being selected as every other member, the selection of an individual for the sample did not influence the chances of any other individual of being chosen The criteria to participate in this study are that (a) the participants must be senior management staff and experienced management accountants (b) the participants must have been involved in manufacturing sector for at least five years, and (c) the participants must have good knowledge of the operation of manufacturing firms in the pre and post globalization era.

A random sample of two hundred (200) participants from forty (40) firms all working in the manufacturing sector, drawn as a subset of the total population in the geographical area. Two hundred participants-an average of five (5) persons per firmwere chosen because it large enough for the research work and adequate to draw conclusion from.There are three attributes that must be considered in connection with a sampling frame: (a) comprehensiveness, (b) probability of selection, and (c) efficiency.

Data for the study were obtained through primary source. The primary data were generated through mail questionnaire sent through the local MAN courier distributor with follow up telephone calls to remind participants on the need to complete and return the questionnaires. Questions were asked on the use SMATs based on costing, performance measurement and competitor accounting classes (twelve in all) and if performance improved over time in the globalization. A pilot survey was adopted for the reliability test and it yielded correlation coefficient of 0.6. One hundred and fifty (150) questionnaires were returned- 75% of the issued questionnaires.

The opinions of the participants were collected on a5 Likert scale response options of Strongly Agreed (SA), Agreed (A), No Effect (NE) Disagree (D), and Strongly Disagreed (SD) with weights of 5,4,3,2 and 1 respectively. For the purpose of this study, the population mean has been set at '3', which is the average of an equal representation of all the possible responses. Pursuant to this, the study analyzed the responses by computing the mean, standard deviation, ranking and correlation. The list of SMA techniques used in the questionnaire were developed based on many prior similar studies such as AlMaryani& Sadik (2012); Yap et al (2013); Shah et al. (2011) and Aksoylu & Aykan (2013).

4. Data Analysis and Interpretation

4.1. Hypotheses Testing

4.1.1. Hypothesis 1

There is no positive association between the use of SMATs among manufacturing firmsin Nigeria and performance during globalization

In testing this hypothesis, three classifications of SMATs (Costing, Performance measurement and competitors accounting were considered). Table 1 below, shows the responses of participants on the application of costing methods (see figure 1, A1-7) on manufacturing firms' activities. From the respondents views using the ranking column it is can be deduce that target costing,ABC/M,value chain costing are the most popular techniques of costing classification of SMATs that is applied by sampled firms.80%(64% strongly) agree that target costing is widely used,62% applying ABC, while 40% apply value chain costing,kaizen costing is unpopular (ranking 7th) hence the benefits thereon is forfeited. Table 2 (using methods in figure 1,B8-9) shows the participants' responses on the use of Planning and performance measurement methods of benchmarking and balance score card (BSC). From the ranking, benchmarking is the most used tools with 78% (60% strongly) applying it to assess how good they were in the industry and for planning purposes. BSC is only applied by only 40% of the respondents showing lack of information about the usefulness of the tool. Table 3(using methods in figure 1 D 16-18) reveals the usage of competitors accounting by manufacturing firms with CPM the most accepted tool (80% of respondents agreed)of competitors review and CPA being historical in nature is the least ranked. The arithmetic means and their percentages indicate the importance of these techniques to the users. The means and standard deviations refer to the absence of spacing or dispersion in responses to the questionnaire about their weighted arithmetic means. The adoption of these tools have impact on the performance of the manufacturing firms as indicated in the responses given in tables 1 to 3.

To further demonstrate the relationship, Table 4 below shows that, there are positive correlations between these classes such as the correlation between the competitors accounting (CPM,CCA and CPA), performance measurement (benchmarking and BSC) and costing and firms' performance are 0.530, 0.375 and 0.417 while inter classes correlations are all positive but not significant and indicates the existence of integration among the identified classes and this confirms that the use of these methods together and interoperate is achievable to enjoy manifold benefits through performance. Hence it can be concluded that the techniques depend on one another for effective performance .From these result, the first hypothesis is rejected, hence there is positive association between the use of SMATs among manufacturing firmsin Nigeria and performance during globalization which confirmed the importance of adopting and implementing SMATs.

.

4.1.2. Hypothesis 2

There are no inherent challenges hindering the effective application of SMATs by manufacturing firms to mitigate the impact of globalization.

Using table 5 below, the respondents expressed their views on the challenges faced by manufacturing firms in using SMATs to mitigate the fierce competition brought about by globalization. The results confirm the existence of constraints and difficulties preventing these firms from assessing the benefits of SMA techniques. Using the arithmetic mean, the range is between 2.3 and 4.28 indicating divergent views of respondents on the various challenges explained by Yap et al (2013) and Ojua (2016b). The standard deviations show a range of between 1.5 and 1.91 indicating similar characteristic with the mean but showing the closeness of all the challenges. From the ranking, personnel deficiency is a big challenge, if an experienced accounts personnel leaves SMAT implementation will be hampered hence ranked first, while management perception as explained by Ojua(2016b) is ranked second, while appropriate timing, cost of implementation, firm size, fear of job loss,TMA popularity, macroeconomic factors and inadequate staff training rank in that sequence. The least challenges are complexity of SMATs,large volume of data requirement, and management knowledge of SMATs. From these results, we can reject the second hypothesis, confirming that there are many challenges hindering the application of SMATs to mitigate the effect of globalization on the performance of manufacturing firms.

Applying Z-statistics further to confirm the decision to reject hypothesis 2, given the stated population mean of '3' with the z-score in sequence as follows -*3.137*, 3.347, 4.421, 4.48, *2.5*, 4.74, *2.357*, 4.189, 3.61, *2.92*, 3,80 and 3.86 applying the principle of any score below '3' is outside the range, hence questions 1,5,7 and 10 ranked 12,10,11 and 9 are the least challenges as discussed above. Hence there are challenges hindering the effective application of SMATs by manufacturing firms to mitigate the impact of globalization.

5. Conclusions and Recommendation

The concept of globalization has created additional need for managers to make strategic decision for the survival of firms in highly competitive manufacturing sector where most consumers perceived that global products are of better quality than local ones. The objectives of this study are to investigate the extent to which manufacturing firms in Nigeria use SMATs to reduce the negative impact of globalization on their activities, and to explore the inherent challenges militating against the adoption and implementation of SMA techniques.The first hypothesis formulated was tested using the data obtained from the questionnaires distributed among selected top management staffand accountants of sampled firms who are involved in core

accounting functions. It was tested using statistical tools like mean, standard deviation and ranking, it showed tools like target costing,ABC, value chain analysis ,benchmarking and CPM are used for analysis which enhance performances-financial and non-financial, this means SMATs have positive association with performance. To confirm this, the Correlation Coefficients were calculated to show relationship between individual class of SMATs and firms performances and combined usage with values ranging from 0.156 to 0.530 all positive but not significant. The null hypothesis is rejected and concluded that there is positive association between the use of SMATs and manufacturing firms' performance in the globalization era.The second hypothesis was tested using the applied approach by using statistical tools and Z-statistics of assumed population mean '3' to ascertain the challenges militating against the application of SMATs by manufacturing firms in this current globalization period. It was discovered from all the calculated values that the exit of experienced personnel, management perceptions of SMATs, huge cost of installing SMATs, untrained accounts personnel, popularity of TMA techniques, and limited knowledge of SMATs due to poor academic and professional training were the various factors affecting the full use of the techniques.

The results show that manufacturing firms in Nigeria despite the many challenges of adopting SMATs ranging from personnel deficiencies to institutional gaps which makes TMA tools still in use, most firms still apply certain SMATs on their activities such as target costing ,ABC ,value chain analysis, benchmarking and CPM. Apart from assisting in planning, SMATs provides cost control system that makes management able to compete on the basis of output and prices. Therefore it is advised that first, manufacturing firms in conjunction with professional bodies broaden the limited knowledge of SMA techniques among accountants and management staff by organizing training programs that will be tailored during the sector. Management will do well to encourage the production of SMAT reports in order to move away from the flawed TMA reports by insisting on contemporary management reports.

Other recommendations are:

- The cost of installation can be mitigated by management by adopting techniques that are relevant in terms of firms' size and nature of production in the first instance before gradual full integration, this will make the firm competitive even with systematic introduction of SMATs
- Competition is inevitable in globalization hence SMATs should be encouraged by creating management plan or design that will migrate the firms to SMA with peer review periodically to ensure compliance.

6. Reference

i. Abdel-Kader, M. & Luther, R. (2006).Management accounting practices in the British food and drinks industry. British Food Journal, 108(5), 336-357.
ii. Abdel Al S.F. & McLellan J.D. (2011). Management accounting practices in Egypt – A transitional economy country. Journal of Accounting Business & Management, 18(2),
iii. 105-122.
iv. Achimugu, A &Ocheni, S. (2015). Application of management accounting techniques in public sector of Nigerian economy. Journal of Good and Sustainable Development in Africa, 2(4), 81-87.
v. Adamu, A. & Olotu, A. I. (2009). The practicability of activity–based costing system in hospitality industry.JOFAR: journal of the Department of Accounting, Nasarawa State University, Keffi, Nasarawa State-Nigeria, 1(1), 36–49.
vi. Ahmad, M. &Leftesi, A. (2014). An exploratory study of the level of sophistication of management accounting practices in Libyan manufacturing companies. International Journal of Business and Management 2 (2), 1-10.
vii. Ajibolade,S. (2008). The impact of improved management accounting system on manufacturing sector performance in Nigeria (doctoral thesis) submitted to University of Lagos.
viii. Akenbor,C. & Okoye,E. (2012). The adoption of strategic management accounting in Nigerian manufacturing firms. International Journal of Arts and Humanities, 1(3), 270-287.
ix. Aksoylu,S.,&Aykan,E.,(2013). Effects of strategic management accounting techniques on perceived performance of businesses. Journal of US-China PublicAdministration, 10(10) 1004-1017.
x. AlMaryani, M. & Sadik, H. (2012). Strategic Management Accounting Techniques in Romanian companies: Some Survey Evidence. Emerging Markets Queries in Finance and Business 387-396.Available online at www.sciencedirect.com
xi. Al-Mawali, H. (2015). Strategic management accounting usage, environmental uncertainty and organizational performance. European Journal of Business and Management, 7(8), 219-234.
xii. Alsoboa, S., Al Khattab, A, & Al-Rawad, M. (2015).The extent to which the Jordanian private industrial companies Use SMA Techniques. European Journal of Business and Management,7(7),456-465.
xiii. Aziz, M.A. (2012). Strategic role of Strategic Management Accounting towards enhancing SME performance in Iraq. PhD thesis submitted to the Othman Yeop Abdullah Graduate School of Business, University Utara Malaysia.
xiv. Baines, A., & Lang field-Smith, K. (2003). Antecedents to management accounting change: a barn structural equation approach. Accounting, Organizations and Society, 28(7,8), 675-698.
xv. Blocher**,** E., Chen, K. and Lin, T. (1999): Cost Management: A Strategic Emphasis. The McGraw- Hill Companies, Inc., New York.
xvi. Blocher,E, Stout,D, Juras, P and Cokins,G. (2012). Cost management: A strategic emphasis 6th edition.

xvii. Bromwich, M. (1990). The case of strategic management accounting: The role of accounting information for strategy in competitive markets. Accounting, Organization and Society, 15(1/2), 27-46.
xviii. Bromwich, M. & Bhimani, A. (1989), Management Accounting: Evolution not Revolution, The Chartered Institute of Management Accountants
xix. Cadez, S., & Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. Accounting, Organizations and Society, 33(7-8), 836-863.
xx. Chai-Amonphaisal, K. & Ussahawanitchakit, P. (2010). Strategic management accounting and corporate performance of Thai-listed companies: a mediating effect of management process. International Journal of Strategic Management, 10(1), 1-23.
xxi. Chenhall, R.H. & Langfield-Smith, K. (2003).Performance measurement and reward systems, trust, and strategic change. Journal of Management Accounting Research, 15, 117-143.
xxii. Chenhall, R.H. & Langfield-Smith, K. (1998).Adoption and benefits of management accounting practices: an Australian study. Management Accounting Research, 9,1-19.
xxiii. Chenhall, R.H. (2008).Accounting for the horizontal organization: a review essay. Accounting, Organizations and Society,33, 517-550.
xxiv. Cinquini, L., & Tenucci, A. (2010). Strategic management accounting and business strategy: A loose coupling? Journal of Accounting & Organizational Change, 6(2), 228-259.
xxv. Cooper, R. and Kaplan, R. (1991).Profit Priorities from Activity-Based Costing. Harvard Business Review,69 (3),130-135.
xxvi. Cooper,R. and Slagmulder, R. (1997a): Target Costing and Value Engineering. Productivity Press, Portland, Oregon.
xxvii. .Cooper, R. and Slagmulder, R. (2004).Achieving Full-Cycle Cost Management. MIT Sloan Management Review, 46(1), 45-52.
xxviii. Cravens, K.S., & Guilding, C. (2001). An empirical study of the application of strategic management accounting techniques. Advances in Management Accounting, 10, 95-124.
xxix. Danneels, E. (2002).The dynamics of product innovation and competences. Strategi Management Journal, 23(12), 1095-1121.
xxx. Dik, R. (2011). Arab management accounting systems under the influence of their culture. Unpublished PhD Dissertation submitted at Dortmund University of Technology, Germany.
xxxi. Dixon, R. & Smith, D. (1993). Strategic Management Accounting. Omega, 21(6), 605-618
xxxii. Donelan, J. G. & Kaplan, E. A. (1998). Value chain analysis: a strategic approach to cost management. Journal of Cost Management, 11, 7–15.
xxxiii. Effiong,S and Beredugo,B.(2015). Balanced scorecard and strategic cost management: Recipes for productivity rating of Nigerian manufacturing companies. Open Journal of Finance, 2(1),1-12.
xxxiv. Egbunike,F, Ogbodo,C., & Onyali,A.(2014). Utilizing strategic management accounting techniques for sustainability performance measurement. Research journal of Finance and Accounting,5(3), 140-153.
xxxv. Fagbemi,T.,Abogun,S. & Uadiale, O.(2013). Appraisal of the adoption of cost management
xxxvi. techniques in selected Nigerian manufacturing companies.KASU Journal of Accounting
xxxvii. Research and Practice, 2(2), 1-13.
xxxviii. Guilding, C., Cravens, K. & Tayles, M., (2000). An international comparison of strategic management accounting practices.Management Accounting Research, 11, 113-135.
xxxix. Hammer, M., and Champy, J. (1993). Reengineering the Corporation: A Manifesto for Business Revolution. Harper Business Press, New York.
xl. Hergert, M. and Morris, D. (1989): Accounting Data for Value Chain analysis. Strategic Management Journal, 10 (2), 175-188.
xli. Hesford, J.W.(2008). An empirical investigation of accounting information use in competitive intelligence. Journal of Competitive Intelligence and Management, 4(3) 17-49.
xlii. Hilton, R., (1999), Managerial Accounting, 4th Ed., Irwin ,McGraw-Hill Inc.
xliii. Holloway, D. (2006). Strategic Management Accounting and Managerial Decision-Making
xliv. Reconceptualised: Towards a Collaboratively Oriented Theory of Organizational Decision Enhancement - ODE, a Doctorate Thesis in Accounting, Murdoch University Australia.
xlv. Holmes, S. and Nicholls, D. (1989). Modelling the accounting information requirements of small businesses. Accounting and Business Research, 19(74), 143-150.
xlvi. Ittner, C.D., Larcker, D.F. & Randall, T. (2003). Performance implications of strategic performance measurement in financial service Firms. Accounting, Organisations and Society, 715-741.
xlvii. Jagtap, K. N. (2013). Life cycle costing–a tool for strategic management accounting–a case study. Tactful Management Research Journal, 1(11), 34-45.
xlviii. Jones, L. (1988). Competitor cost analysis at Caterpillar. Strategic Finance, 77, 32–38.
xlix. Joshi, P. L., (2001). The international diffusion of new management accounting practices: The case of India. Journal of International Accounting, Auditing, and Taxation, 10(1), 85-109.

l. Langfield-Smith, K. (2008). Strategic management accounting: How far have we come in 25 years? Accounting, Auditing & Accountability Journal, 21(2), 204-228
li. Lord, Beverley R. (1996). Strategic Management Accounting: the Emperor's New Clothes?
lii. Management Accounting Research, 7(3), 347-366.
liii. Mbawuni,J. & Anertey,A. (2014).Exploring management accounting practices in emerging telecommunication market in Ghana. Accounting and Finance Research, 3(4), 71-85.
liv. Mia, L. and Clarke, B. (1999). Market competition, management accounting systems and business unit performance. Management Accounting Research, 10,137-58.
lv. Moon, P. and K. Bates, (1993). Core analysis in strategic performance appraisal.
lvi. Management Accounting Research, 4(4),139-152.
lvii. Moore, C. and Lewis,K.(2009). Origins of globalization. Routledge International Studies in Business History. 1st edition.
lviii. Ojra,J. (2014). Strategic management accounting practices in Palestinian companies: Application of contingency theory perspective. A doctorate thesis submitted at Norwich Business School, University of East Anglia, United Kingdom.
lix. Ojua, O.M. (2016a). Application of strategic management accounting techniques in combating small business failures in Nigeria. International Journal of Innovative Research and
lx. Advanced Studies, 3(7), 19-25.Ojua,O. M. (2016b). Management perceptions of the role of strategic management accounting techniques in decision making: A survey of Nigerian petroleum marketing. Imperial Journal of Interdisciplinary Research, 2(8),1-10. Economy. International Journal of Business and Management Review, 3 (15), 17-32.
lxi. Oyerogba,E.O. (2015). Management accounting practices in the developing economies: The case of Nigeria listed companies. The Journal of Accounting and Management, 5(2), 111- 123.
lxii. Oyerogba,E.O, E.O., Olaleye M. O. & Solomon, A.Z. (2014). Cost management practices and firm's performance of manufacturing organizations. International Journal of Economics and Finance, 6 (6), 234-239.
lxiii. Porter, M. (1980).Competitive Strategy: Techniques for analyzing industries and competitors, The Free Press Rababa'h, A. (2014). The implementation of management accounting innovations-the case of balanced scorecard implementation within Jordanian Manufacturing Companies, International
lxiv. Review of Management and Business Research, 3(1), 174-181 Ramljak, B., & Rogoši ć, A., (2012). Strategic management accounting practices in Croatia.
lxv. The Journal of International Management Studies, 7(2), 93-100 Randall, T. and Ulrich,K. (2001). Product variety, supply chain structure and firm performance
lxvi. Analysis of the US bicycle industry. Management science, 47(12), 1588-1604. Roslender, R. & Hart, S. J., (2010), Strategic management accounting: Lots in a name? No.1005,
lxvii. Accountancy Research Group, Heriot Watt University. Rostami, M. (20-15). Effectiveness of strategic and operational management accounting techniques. American Journal of Economics, Finance and Management, 1(5), 362-368.
lxviii. Salawu, R., Oyesola; A., & Tajudeen J. (2012). Activity Based Costing Adoption among Manufacturing Companies in Nigeria. Journal of Modern Accounting & Auditing.8 (1).39-45.
lxix. Sangosanya, A.O., (2011). Firms' growth dynamics in Nigeria's manufacturing industry: A panel analysis. Journal of Applied Econometric Review, 1(1), 1-18.
lxx. Sarokolaei, A. M., & Rahimipoor, A. (2013).Studying the obstacles of applying a target costing system in firms accepted in Tehran Stock Exchange. Journal of Economics and International Finance, 5(1), 17-20.
lxxi. Shah, H., Malik, A., & Malik, M. S. (2011). Strategic management accounts—a messiah for management accounting. Australian Journal of Business and Management Research, 1(4) 1-7.
lxxii. Shank, J. K. (1989). Strategic cost management: New wine or just new bottles? Journal of Management Accounting Research, 1, 47-65.
lxxiii. Shank, J. K. & Fisher, J. (1999). Case Study: Target costing as a strategic tool. Sloan Management Review, 4(1), 73-82.
lxxiv. Sidhu, B.K. & Roberts, J.H. (2008). The marketing/accounting interface: lessons and limitations. Journal of Marketing Management, 24(7-8), 669-686.
lxxv. Tillmann, Katja, (2003), Strategic management accounting and sense Making: A grounded theory study, Doctorate Thesis in Accounting, University of Southampton, UK
lxxvi. Tillman, K., Goddard, A., (2008), Strategic management accounting and sense-making in a multinational company. http://eprints.soton.ac.uk/346737/ (downloaded: 01.05.2016).
lxxvii. Tillema, S. (2005). Towards an integrated contingency framework for MAS sophistication case Studies on the scope of accounting instrument in Dutch power and gas companies.
lxxviii. Management Accounting Research,16, 101-129
lxxix. Toyo,E. (2000). Background to globalization. ASUU Educational Publication series 2 Woodward, D. (1997). Life cycle costing theory, information acquisition and application. International Journal of Project Management, 15(6), 335-344.

lxxx. Yap, K. H. A., Lee, T. H., Said, J. & Yap, S. T. (2013). Adoption, benefits and challenges of strategic management accounting practices: evidence from emerging market. ASIA Pacific Management Accounting Journal, 8(2), 27-45.

Appendix

Data Presentation:

Responses	5	4	3	2	1	Std deviation	Mean	Rank
(1) Attribute Costing is commonly applied on our products to make it distinct from global branded products	9 6%	27 18%	24 16%	30 20%	60 40%	1.58	2.3	6
(2) ABC method is used for costing indirect costs/expenses assisting in controlling cost that constitute product prices and improving performance	45 30%	48 32%	45 30%	0 0%	12 8%	1.61	3.76	2
(3) Life cycle costing is applied on product costing at the design stage till the end of the product usefulness	20 13.3%	20 13.%	10 6.6%	60 40%	40 27%	1.51	2.47	5
(4) Target costing application assist in the determination of profits in advance making it possible to compete/perform well effectively	96 64%	24 16%	3 2%	12 8%	15 10%	1.83	4.16	1
(5) Value chain costing method is applied in valuing customers' satisfaction cost and accumulate cost thereon	27 18%	33 22%	27 18%	30 20%	33 22%	1.42	2.94	3
(6) Cost reduction strategy include the application of kaizen costing technique for good performance	12 8%	12 8%	0 0%	24 16%	102 68%	1.91	1.72	7
(7) Quality costing is implemented to ensure products are delivered timely to avoid competitors poaching	30 20%	20 13.3 %	20 13.3%	40 26.7%	40 26.6%	1.44	2.73	4

Table 1: Responses on Costing Method of SMATs

Responses	5	4	3	2	1	Std deviation	Mean	Rank
(1)Benchmarking is applied to evaluate performance and set performance standard as obtainable in the industry	90 60%	27 18%	24 16%	9 6%	0 0%	1.93	4.32	1
(2)Benchmarking assist in planning and promoting peer review that reduced the impact of competition caused by globalization	45 30%	48 32%	45 30%	0 0%	12 8%	1.61	3.76	2
(3)Integrated Performance Measurement (Balance Score Card) is used by management as a yardstick of overall performance	20 13.3%	20 13.%	10 6.6%	60 40%	40 27%	1.51	2.47	3

Table 2: Responses on Performance Measurement Method of Smats

Responses	5	4	3	2	1	Std Deviation	Mean	Rank
(1) Competitors cost assessment(CCA) is used for comparison to make cost control possible within organization	18 12%	27 18%	20 13%	20 13%	65 44%	1.53	2.42	5
(2) CCA data is readily available for review purpose and the sources are credible.	12 8%	28 19%	30 20%	40 27%	40 27%	1.49	2.55	4
(3) The cost of competitors' position monitoring(CPM) is too huge and cannot be sustained by most manufacturing firms	60 40%	40 27.%	10 6.6%	20 13%	20 13%	1.56	3.67	3
(4) CPM is relevant to decision making as it guide management on the steps to take on pricing and production	96 64%	24 16%	3 2%	12 8%	15 10%	1.83	4.16	1
(5) Competitors performance appraisal(CPA) is adopted for peer review and for knowing position of firm in the industry	70 47%	35 23%	15 10%	15 10%	15 10%	1.66	3.87	2
(6) CPA is historical and figures could be comprised and can still be applied to take effective strategic decision	10 6.7%	10 6.6%	10 6.7%	20 13%	100 67%	1.90	1.73	6

Table 3: Responses on Competitors Accounting Method of SMATs

Methods/ Classifications	Costing	Performance Measurement	Competitors Accounting	Smats/Performance
Costing	1			
Performance measurement	0.156	1		
Competitors accounting	0.221	0.199	1	
SMATs Application	0.417	0.375	0.530	1

Table 4: The Correlation Coefficients between the Three Classes of Strategic Management Accounting

Responses	5	4	3	2	1	Std Deviation	Mean	Z-Score	Rank
(1) Management do not understand why it is required to implement/use SMA technique and the various reports	9 6%	27 18%	24 16%	30 20%	60 40%	1.58	2.3	-3.137	12
(2) The popularity of TMAPs among manufacturing firms makes the adoption of SMATs difficult.	45 30%	48 32%	45 30%	0 0%	12 8%	1.61	3.78	3.347	7
(3) Rapid changes in internal & external environment like competition but there is no time and no personnel resources to make these changes into the management accounting system	80 53%	40 27%	10 6.7%	10 6.7%	10 6.6 %	1.81	4.13	4.42	3
(4)Management perception of SMATs usage is that it is not part of theirjob but of accountants	96 64%	24 16%	3 2%	12 8%	15 10%	1.83	4.16	4.48	2
(5) SMA techniques are very complex; it needs special skills to implement/use. There are no experienced people to implement SMA technique	60 40%	30 20%	10 6.7%	30 20%	20 13.3 %	1.5	3.53	2.50	10
(6) If key persons leave the company, knowledge of SMA techniques will be lost from the company and forfeited	102 68%	24 16%	0 0%	12 8%	12 8%	1.91	4.28	4.74	1
(7) There is a lot of data required for SMA techniques but there are limited capacity and technology to capture the data	60 40%	30 20%	9 6%	27 18%	24 16%	1.5	3.5	2.36	11
(8) The cost of installing and required database of SMA techniques are huge and erode the profit accruable to manufacturing firms. Cost exceed benefits	75 50%	36 25%	21 14%	6 4%	12 8%	1.76	4.04	4.19	4
(9) Macroeconomic indices like inflation and foreign exchange variations do not encourage the implementation of SMATs	63 42%	42 28%	3 2%	42 28%	0 0%	1.65	3.84	3.61	8
(10) SMA techniques are not popular like MA techniques and other methods due to inadequate training of staff and discordant information about its tools and benefits	69 38%	24 16%	12 8%	24 16%	21 14%	1.55	3.64	2.92	9
(11) Fear of job loss by accountants is a major challenge in the implementation of SMATs	75 50%	30 20%	15 10%	15 10%	15 10%	1.68	3.9	3.80	6
(12) small firms cannot use SMATs like large firms due to paucity of data and funding challenges	69 46%	33 22%	24 16%	15 10%	9 6%	1.69	3.92	3.86	5

Table 5: Responses on Challenges Hindering the Adoption and Implementation of Smat in a Globalized Environment