Management Perceptions of the Role of Strategic Management Accounting Techniques in Decision Making: A Survey of Nigerian Petroleum Marketing Firms

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Abstract: The goal of this research paper was to ascertain the extent to which management view the use of Strategic Management Accounting Techniques (SMAT) in making vital business decisions. Using a sample of fifty petroleum marketing firms’ senior management executives directly involved in running the organizations and adopting questionnaires to gather primary data, the Pearson Product Moment Correlation Coefficient and applied analytical approach using mean, ranking and standard deviation were adopted as main statistical tool of analysis. The first hypothesis shows ranking of 0.449 below 0.5 level of confidence, while the second hypothesis confirmed the existence of inherent challenges in usage of SMAT among oil marketing firms. The results indicated limited trust in the use of SMAT in pricing policies and decision making process. The findings of the study have implications for the firms’ management staff as they revealed the attainment of effective resource management through effective pricing and efficient resource allocation. As a result of this research, it can be concluded that management have reservations in applying SMAT in decision making. It recommended that accountants and senior management staff expand the scope by including other techniques not being applied currently.

Keywords: Decision making, downstream sector, pricing, resources utilization, Strategic effectiveness, strategic management accounting, SMA techniques, traditional management accounting

1. Introduction

The deregulation of the downstream sector of the lucrative petroleum industry in Nigeria brought in several players into the market and created a competitive market especially in the oil marketing subsector (Kalejaiye, Adebayo & Lawal, 2013) where prices and resource allocations are determined to a large extent by the invisible forces of demand and supply. The deployment of resources to appropriate area by management depends on the information availability internally and externally. 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). Hence an important critical activity of a firm is its strategic drive which will make it compete well in the marketplace through effective decision making. Management had always relied on management accounting reports and other rule of thumb for decision making process (Achimugu & Ocheni, 2015; Ahmad & Leftesi, 2014; Akenbor & Okoye, 2012; Abdel-Kader & Luther, 2008), while the traditional management accounting tools explore internal information for management use which is obsolete for today’s competitive business environment. Strategic Management Accounting tools explore and scan both internal and external business and socio-economic environment for effective business decisions (Ahmad and Leftesi, 2014; Akenbor and Okoye, 2012; Ojra, 2014; Aziz, 2014).

SMA is about making management accounting more strategic (Roslender & Hart, 2003). 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 is taken. It is the process that collects competitor’s information, exploits cost reduction opportunities (strategic cost analysis), matches accounting emphasis with strategic position (market analysis), and strategic evaluation of current situation (Lord, 1996; Dixon & Smith, 1993).

Unlike manufacturing sector, the marketing arm of the downstream oil sector offer homogeneous products to their customers. The marketers are obliged to sell Premium Motor Spirit (PMS), Automotive Gas Oil (AGO) and Dual Purpose Kerosene (DPK) among other identical products, all of equal standard as approved by appropriate government agencies. Since the
products are not branded there is need for management of participating firms to be proactive in order to outwit others. Hence the need for management to adopt measures that will make the sales of their products faster, increase profitability and harness available resources for maximum usage. Evidently, SMA tools are veritable techniques of effective decision making (Ojua, 2016; Alsoboa et al, 2015; Ojra, 2014; Mbawuni & Anertey, 2014; Aziz, 2012). The growth of SMA tools in decision making is growing in developing countries unlike their developed counterpart (Egbunike, Ogboro and Onyali, 2014; Fagbemi, Abogun and Udadike, 2013; Ojua, 2016; Ojra, 2014; Akenbor & Okoye, 2012; Ajibolade, 2008). Several Nigerian firms still rely largely on the flawed traditional management accounting tools with its high failure rate (Fagbemi et al, 2013; Ojra, 2014; Egbunike etal,2014) hence depriving themselves of the numerous benefits of SMA (Tillmann & Goddard,2008;Al-Maryani & Sadik,2012; Cadez & Guilding,2012; Holloway,2006; Abdel-Kader & Luther, 2008) which among other factors is the cause of failure among Nigerian firms (Ojua,2016;Fagbemi et al,2013,Egbunike et al,2014).

This paper investigates the extent to which the management of oil firms in Nigeria rely on the output of SMA tools in their decision making process. Ojra (2014) reported that the use of SMA techniques is affected by perceived environmental uncertainty, organizational technology and size of the firm (larger firms are more likely to adopt it). Generally SMA techniques have a direct positive relationship with non-financial and operational performance of firms (Ojua, 2016; Fagbemi et al, 2013; Ojra, 2014). The activities of competitors, government policies and fiscal swings are sets of information required to sustain a business strategically especially in the volatile oil industry (Kalejaiye et al, 2013; Ojo, 2010). This study is important for three reasons. First, the need for the use of SMA tools is important especially among local firms in Nigeria due to astronomical rise in business closures over the years due to ineffective decision making caused by reliance on the outdated traditional management accounting tools (Ojua, 2016; Egbunike et al, 2014; Rababa’h, 2014; Akenbor & Okoye, 2012). Second, the recent price modulation and deregulation in the downstream sector of petroleum industry has created a need for management to have scientific tools of decision making to avoid being left behind by competitors. Furthermore, the relationship between the application of SMA techniques and benefits thereon to firms have resulted in mixed research findings (Ojra, 2014; Ahmad & LeFlesi, 2014; Ramljak & Rogosic, 2012; Mbawuni & Anertey, 2014; Fagbemi et al, 2013; Aziz, 2012). In covering this research gap, this paper makes key contributions to the literature on the subject matter. It provides evidence on the reaction of top management staff to the use of SMA techniques as compared to other unconventional tools of decision making and therefore has potential implications for business policy-makers and the extent to which SMA information affect the viability of oil marketing firms. Hence this study gives new insights into the relationship between SMA techniques and business sustainability especially in the Nigerian oil downstream sector.

The research questions on which this paper attempts to provide answers to are: (i) is there any significant relationship between the use of SMA techniques among firms in the oil sector and effective decision making? (ii) Are there inherent problems peculiar to the oil sector hindering the effective use of SMA techniques? 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

Strategic Management Accounting Techniques and Effective Decision Making

Several researchers have described SMA in different ways but the ultimate key words attributable to all definition are: effective decision, process and competition (Tillmann & Goddard, 2008; Al-Maryani & Sadik, 2012; Cadez & Guilding, 2012; Holloway, 2006; Abdel-Kader & Luther, 2008). One of these researches Guilding et al. (2000) identified twelve (12) SMA tools available to business but they concluded that most firms adopted competitor accounting and strategic pricing due to their viability in making decision. SMA tools perform functions like gathering competitor information, gathering information from the accounting service in strategic decisions, and reducing costs based on strategic decisions (Shah, Malik & Shah, 2011) The difference between SMA and Management Accounting(MA) is that the former is designed to serve a group of users within and outside the organization and provide them with data and information necessary for them to take decisions related to these organizations , and the latter is the sub-accounting system, which serves the internal management of the organization and assist in performing the functions of planning, control, decision-making and performance evaluation in its operational activities(Ojra,2014; Aziz,2012; AlMaryani and Sadik,2012; Cadez & Guilding,2012; Holloway,2006; Abdel-Kader & Luther, 2008). Therefore, a need to look for
methods and techniques which can lead to better relationship between strategy and operational effectiveness, externally focused on the market and pricing models. SMA combines elements from MA, strategic management and marketing within a single framework (Ojra, 2014).

Decision making is a fundamental part of management and the most critical function amongst others. It is the process of identifying and choosing/ selecting alternative courses of action in a manner appropriate to a given situation (Kidana, 2012). Right decisions give direction for a right course of action. SMA deals with those decisions that require quantitative data within and outside the firm, and the application of qualitative skills to make strategic decisions which have long term effect (Cadez & Guilding, 2012; Kidana, 2012). The inherent function of SMA in decision-making process is to provide data relevant to the decision, through quantitative analysis with qualitative factors considered in making the final decision by management which is supposed to be strategic after considering several alternatives (Cadez and Guilding, 2012). Holloway (2006) in his assessment of relevant SMA literatures on budgeting, corporate governance and decision making asserted that effectiveness not efficiency should be the aim of well-constructed decision outcomes among firms using SMAT irrespective of their sizes and other characteristics.

A general review of scholars’ work and on the real job evidence found that SMA or SMA techniques have not been adopted or accepted widely and the term is misunderstood by business managers and even accountants (Mbawuni & Anetey, 2014; Paggios & Pavlatos, 2009; Langfield-Smith, 2008; Nixon & Burns, 2013; Guilding et al., 2000). The low rate of adoption negates the widely held views and inconsistent with the model that business environment requires more information for decision making process (Fowzia, 2011). In climes where the adoption rate is fairly high, further review shows that SMA tools relevance determines its acceptability from one country/firm to the other. The outcome of any decision is performance, if it is favourable, management will be commended by stakeholders. Chenhall and Langfield-Smith (1998) in their Australian study discovered strong relationship between SMA tools and business performances. Al-Mawali (2015) studied SMA usage by firms within environmental uncertainty and business performance, posited that the level of SMA usage positively affect business performance but environmental uncertainty moderate the relationship hence reducing the supposed benefits. Cadez and Guilding (2008) returned a weak relationship between the usage of SMA tools and 7-dimensional performance indicators including the perceived performance of the top 500 Slovenian firms. Rababa’h (2014) also returned a weak relationship among Jordanian firms reviewed on the use of SMA tools and espoused organizational strategy indicating decision making is not effective. A midpoint relationship was observed in the Turkish firms’ research conducted by Şener and Dirlik (2012) between the adoption of SMAT and the performance of the top one thousand firms. Ramljak and Rogosic (2012) in their review of SMA in Croatia asserts that SMA tools are complementary and their combined effect is very useful for cost control after considering the activities of large firms using Activity Based Costing. Cinquini and Tenucci (2006) pointed out that the SMA techniques usage in Italy appears to be greater than what might have been presumed. In the view of Ahmad and Lefesri (2014) using Libyan manufacturing firms as a yardstick of investigative analysis discovered that virtually all the firms still rely largely on traditional management accounting techniques, while the adoption rates of advanced tools were rather low, slow and similar than those presented in other developing countries revealing that Libyan firms were still between stage one and two in IFAC-based model. The reasons given for this scenario are: institutional factors, the attributes/nature of adopting firms and the simple attributes of MA techniques. Joshi (2001), in an Indian study on manufacturing firms affirmed that the businesses still rely heavily on the traditional management accounting techniques such as variable costing, budget for their operations and project evaluation. Rostami (2015) returned that most firms sampled only competitor analysis, SWOT analysis and core competencies are the tools that can be used to evaluate banks as other tools were not known to the users. 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. They advanced a model and tested using structural equation modelling and data collected from a sample of 193 large Slovenian companies. The study’s findings support contingency theory’s tenet of no universally appropriate SMA system, with factors such as company size and strategy having a significant bearing on the successful application of SMA. Roslender & Hart (2003) found that SMA is the combination of MA tools and marketing concept which can improve decision making and performance but lack of understanding of the principle and limited knowledge have been a big challenge. In a conceptual review of SMA literature and SMA practices, Nixon & Burns (2013) brought out the disconnect between the two concept and advised on their integration for a more coherent and cohesive SMA tool. The techniques
most researchers adopted as SMA tools are as follows:

Activity based costing/Management: This technique is based on the activities performed by the firm, these activities are considered the main causes of indirect costs, the strategic focus is the management of the activities through which it is possible to define actions aiming at achieving a competitive advantage (Cinquini & Tenucci, 2010; Cravens & Guilding, 2001). Attribute Costing: This tool of SMA takes products as a bundle of features that differentiate itself from other products of the same brand, which costs are determined through customers' appeal, it can be interpreted as an externally influenced because the attributes of services are determined according to customer requirements; attributes that may be costed are: operating performance variables, reliability, and warranty arrangements, the degree of finish and trim, assurance of supply and after sales service (Guiding et al., 2000). Benchmarking: An ever-existing tool that compares the performance of a company to that an ideal standard or best practices, the aim is to make the firm achieve its goals through gradual measurable improvement; this technique underline the external strategic orientation toward competitors (Cravens & Guilding, 2001).

Brand value budgeting: The tool evaluates resources allocation based on the use of brand value as a basis for managerial decisions in order to support a brand position, hence placing attention on management dialogue on brand issues (Guiding et al., 2000). Brand value monitoring: The technique involves the financial valuation of a brand through the assessment of its strength such as leadership, stability, market, trend, support, and protection combined with historical brand returns (Guiding et al., 2000). Competitive position monitoring: It aims at gathering the information on competitors regarding sales, market share, volume and unit costs; Basing on the information provided, the company is able to assess its own position relative to main competitors and thereafter, formulate its strategy. This information provides the basis for the assessment of a competitor's market strategy (Cinquini and Tenucci, 2010; Guiding et al., 2000). Competitor cost assessment – 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). The main criticism concerns the authenticity of the information sources. 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). Customer accounting - this technique takes customers or group of customers as unit of accounting analysis and aims at appraising profit, sales or costs deriving from customers or customer segments(Ojra,2014;Aziz,2012). Environmental Management Accounting: This tool, still debatable as SMA tool represents a combined approach that provides for the transition of data from financial accounting, cost accounting and mass balances to increase material efficiency, reduce environmental impacts, corporate social responsibility and risks and reduce costs of environmental protection. Integrated performance measurement systems (otherwise called Balance scorecard): Balanced Scorecard is a tool used by many organizations to evaluate the performance of different aspects of their activities. The model is not only to consider the organization performance internally, but many investors and shareholders, are able to monitor the results of this organization, assess and ensure This model suggests to evaluate the performance of each organization must use the set of indicators. Managers are able to monitor four major aspects of the organization: Financial, customer, internal business and learning and growth aspects (Rostami,2015). These measures imply the monitoring of factors for the attainment of customer satisfaction and competitive advantage (Cinquini and Tenucci, 2010). Kaizen costing: accumulates cost reduction strategy on each production phase until the full life cycle of the product is achieved. Life Cycle costing: this tools helps to figure out the size of the cost of production in the phases of product development. It provides ways of reducing cost and indicate ways to value profitability accurately. In general, these phases may include design, introduction, growth, decline and eventually abandonment. Quality costing - costs 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, appraisal and failure costs. Quality cost reports are produced for the purpose of directing management attention to prioritize quality problems. Strategic costing: These are costing systems which progressively get into the strategic management process, which means that costing systems must explicitly consider strategy and the pursuit of long-term competitive advantage. Strategic pricing: It focuses on the use of competitor information, like competitors' reactions to price changes, price elasticity, economies of scale and experience, in the pricing process. Target Costing: It is a method applied during product and process design or planning that involves estimating a cost calculated by subtracting a desired profit margin from an
estimated price to arrive at a desired production, engineering, or market cost. It is a preventive cost that is fixed to ensure that a goal is achieved along with the market cost. The product is then designed to meet that cost (Ojua, 2016; Aziz, 2012). Value chain analysis evaluates and co-ordinates cost on each phase of product development in order to figure out ways of satisfying the customers, minimize cost and increasing the efficiency of activities. It is extension of the ABC approach in which costs are allocated to activities required to design, procure, produce, market, distribute, and service a products. The aforementioned techniques were further classified into five groups reflecting by Aksoylu & Aykan (2013) namely: (a) Strategic Costing (Attribute costing, life cycle costing, quality cost, target costing and value chain costing), (b) Strategic Planning, Control and performance management (benchmarking, integrated performance), (c) competitor accounting (competitors cost assessment, environmental management accounting and competitors performance appraisal); (d) Strategic decision making (strategic cost management, strategic pricing, brand valuation); (e) Customer accounting (customer profitability analysis, lifetime customer profitability analysis).

In Nigeria, several researchers (Ojua, 2016; Egbunike et al, 2014; Fagbemi et al, 2013; Akenbor & Okoye, 2012) found a large preference for MA tools among firms operating in various sectors of the economy. Achimugu & Ocheni (2015) discovered that SMA and MA tools are not applied in the public sector organizations as they are more concern with the welfare effects of their actions rather than the profit/benefit or value generation from their actions hence a decisions are taking based on rule of thumb or on the assumed need of the populace. Fagbemi et al (2013) concluded that Nigerian firms still believe in the traditional MA however, target costing and ABC are popular among some of them basically for project evaluation. The reasons for such scenario in developing nations are: first, the huge cost putting the firm to adopt a realistic one (Ojua, 2016; Shank, 2007). The availability of rule of thumb information and management expertise makes SMA tools unimportant (Fagbemi et al, 2013; Ajibolade, 2001). Also, the knowledge of SMA is virtually non-existent among accountants/managers working in small firms which a larger proportion of firm belong to in Nigeria (Ojua, 2016; Achimugu & Ocheni, 2015; Akenbor & Okoye, 2012). Most educational institutions are not offering 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).

Based on the foregoing, the following hypothesis is proposed:

H. There is no significant relationship between the use of SMAT among oil marketing firms and effective decision making.

H. There are no inherent problems hindering the effective use of SMA techniques in oil marking firms.

3. Research Methods

The survey research method was adopted in this study. This study was designed to investigate management perception of the role of SMA techniques in decision making among oil marketing firms in Nigeria. Survey research is concerned with identifying real nature of problem and formulating relevant hypothesis to be tested. Data were collated from senior management staff of oil marketing firms in Apapa area of Lagos State. Sampled firms were recognized through information gathered from Petroleum Depot Owners Association register available in their secretariat. The collected data were analyzed statistically to establish the findings. Apapa area was chosen because of the total concentration of several oil tank farms, oil marketing firms, offices of multinational oil companies and the need to have enlightened respondents.

SAMPLING PROCEDURE

The participants 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 participant must be senior management staff involved in decision making process (b) the participants must have been in the oil marketing business for at least
five years, and (c) the participants must have good knowledge of the operation of the business.

A random sample of fifty (50) oil marketing firms was drawn as a subset of the total population of all the oil firms in the geographical area. Fifty firms were chosen because it large enough for the research work considering the secrecy attached to exchange of business information in Nigeria. According to Fowler (2002), 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 the primary source. The primary data were generated through self-administered questionnaire. The instrument was administered on participating management staff of oil marketing firms to determine the management perceptions of the use of SMA techniques in their decision process. Questions were asked on the use of various SMA techniques and if management acknowledged their importance. Exclusive use of self-administered questionnaire to generate data on relevant variables was adopted to mitigate difficulties in gathering data, all questionnaires were fully returned. A pilot survey was adopted for the reliability test and it yielded correlation coefficient of 0.75.

The opinions the senior management staff were collected on a 5 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 (Pearson). The list of SMA techniques used in the questionnaire were developed based on many prior similar studies such as AlMaryani & Sadik (2012); Fowzia (2011); Shah et al. (2011) and Aksoylu & Aykan (2013).

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.0 Data Presentation

Table 1: Responses on management perceptions of the use of SMAT by oil marketing company and challenges hindering full utilization of SMAT

<table>
<thead>
<tr>
<th>Responses</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Std deviation</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Management have full knowledge of the use of SMA techniques and the various reports</td>
<td>3</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>20</td>
<td>1.58</td>
<td>2.3</td>
<td>7</td>
</tr>
<tr>
<td>(2) Traditional MAPs, rule of thumb and experiences are applied by management for decision making in the industry.</td>
<td>15</td>
<td>16</td>
<td>15</td>
<td>0</td>
<td>4</td>
<td>1.605</td>
<td>3.78</td>
<td>3</td>
</tr>
<tr>
<td>(3) Management use strategic costing reports like attribute, life cycle, quality, ABC, target and value-chain analysis.</td>
<td>10</td>
<td>10</td>
<td>2</td>
<td>24</td>
<td>4</td>
<td>1.414</td>
<td>2.96</td>
<td>5</td>
</tr>
<tr>
<td>(4) Benchmarking and Integrated performance measurement systems (balanced scorecard) are relevant in planning and control of the firm</td>
<td>32</td>
<td>8</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>1.829</td>
<td>4.16</td>
<td>2</td>
</tr>
<tr>
<td>(5) Strategic/tactical decision making is aided by strategic cost management, strategic pricing and brand valuation.</td>
<td>9</td>
<td>11</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>1.415</td>
<td>2.94</td>
<td>6</td>
</tr>
<tr>
<td>(6) Reports on competitors’ activities, balance scorecard and performance assist in decision making on pricing and stock retention</td>
<td>34</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>1.907</td>
<td>4.28</td>
<td>1</td>
</tr>
<tr>
<td>(7) Analysis of customers idiosyncrasies and retention are applied in fixing prices and stock level in order to satisfy customers</td>
<td>20</td>
<td>10</td>
<td>3</td>
<td>9</td>
<td>8</td>
<td>1.5</td>
<td>3.5</td>
<td>6</td>
</tr>
<tr>
<td>(8) The cost of installing and</td>
<td>25</td>
<td>12</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>1.735</td>
<td>4.04</td>
<td>1</td>
</tr>
</tbody>
</table>
4.1 Hypotheses Testing

Hypothesis 1: There is no significant relationship between the use of SMAT among oil marketing firms and effective decision making.

From questions 1-7 in Table 1 above, the respondents believe that SMA techniques are not of significance in decision making process of oil marketing firms in Nigeria, where the weighted arithmetic means and their percentages indicates to the importance of these techniques for the managements of these companies. The weighted mean and that the standard deviations refer to the absence of spacing or dispersion in responses to the questionnaire about their weighted arithmetic means. Also that the general weighted means show the importance of these techniques to the managements of these firms, the ranking column shows the order of importance to management. Competitors’ performances top the ranking followed by benchmarking/balanced scorecard and use of traditional MA techniques. Managements knowledge of SMA technique ranked the least indicating that management places less emphasis on SMA with 60% affirming lack of knowledge of the techniques, with only 24% acknowledging having ideas of SMA tools. The weighted total mean of 2.31 (less than the expected 3) and standard deviations showing similar characteristics, it is convenient to say that there is no significant relationship between the use of SMAT among oil marketing firms and effective decision making because the use of the strong belief in the rule of thumb, expertise and MA tools.

To further demonstrate the relationship, the calculation of the correlation is done using the Pearson Product Moment Correlation Coefficient (r): We have the following result: n=50, \(\Sigma x^2 = 3781, \Sigma y = 117, \Sigma xy = 1547, \Sigma y^2 = 1547, (\Sigma x)\)
\[r = 0.499\]
This estimate of 0.499 above showed that, there are weak correlations between the application of use of SMA techniques and decision making by management of oil marketing firm. This indicates the presence of limited use of SMA tools by management hence not exploring the full potentials of the mentioned techniques. From these results, we can accept the first hypothesis, which confirmed that there is no significant relationship between the use of SMA techniques among oil marketing firms and effective decision making.

Hypothesis 2: There are no inherent problems hindering the effective use of SMA techniques in oil marketing firms.

Using questions 8-12 in Table 1 above, the respondents expressed their opinions on the reasons for the low acceptance of SMA techniques as a tool of decision making in oil marketing firms in Nigeria, where the weighted arithmetic means and their percentages indicates the various constraints hindering usage of SMA tools as effective decision making. The results above show that the sample of respondents confirms the existence of constraints and difficulties which prevent these companies or prevent the application and use of SMA techniques, where all the weighted arithmetic means and their percentages indicates the various constraints hindering usage of SMA tools as effective decision making. The results above show that the sample of respondents confirms the existence of constraints and difficulties which prevent these companies or prevent the application and use of SMA techniques, where all the weighted arithmetic means and their percentages indicate to that, and the general mean (3.87), and the standard deviations show that, there were differences in responses about this part of the questionnaire, and the last column show the ranking of these constraints and difficulties, where the huge costs of installing SMA techniques as compared to MA techniques is a pertinent reason for the situation, while the scarcity of trained professionals for the use of these techniques comes next. From the
percentages computed from participants’ responses, it can be seen that the knowledge of SMA is limited due to constraints, also the nature of the industry peculiar because swift actions are required on information obtained to avoid behind left behind, which SMA is able to meet. From these results, we can reject the second hypothesis, which confirmed that there are many inherent problems hindering the effective use of SMA techniques in oil marketing firms.

5. Conclusions and Recommendation
The acceptance of SMA Techniques as means of strategic decision making has become very important at least for the survival of firms in highly competitive industries where information is acted on a swift as possible. The objectives of this study are to examine management perceptions of the roles of SMA techniques in decision making process in a deregulated sector like the oil industry, and to inherent challenges militating against the attainment of full benefits of SMA techniques. The first hypothesis formulated was tested using the data obtained from the questionnaires distributed among selected top management staff of sampled firms who are involved in critical decision making. It was tested using statistical tools like mean, standard deviation and ranking, it revealed that management lacked basic information about the subject matter and given their limited knowledge viewed SMA as too complex, not swift enough for taking quick business decisions and hence too complex. To confirm this, the Pearson Moment Correlation Coefficient was applied and returned co-efficient of 0.499 less than least level of significance of 0.5; the null hypothesis is accepted and concluded that there is no significant relationship between the use of SMAT and effective decision making among oil marketing firms in Nigeria. The second hypothesis was tested using the applied approach by using statistical tools to ascertain the inherent factors militating against the full utilization of the benefits hindering the use of SMA Techniques among the sampled oil firms. It was discovered from all the calculated values that the huge cost of installing SMATs, unqualified accounts personnel, absolute trust in MA techniques/rule of thumb, perceived expertise of management staff and limited knowledge of SMAT were factors affecting the full use of the techniques.

The findings of this paper have implications for policy making. The results show that Nigeria companies especially the oil marketing ones still rely on the traditional MA techniques and rule of thumb in the decision making process with its attendant wrong decisions and reduction in the wealth of the organization, while management expertise is great asset, scientific backed data and reports provided by SMA give desired leverage to the firms. Apart from assisting in planning, SMA tools provides control mechanism that promote resource utilization at the optimum level. This, therefore calls for complete policy shift to first broaden the limited knowledge of SMA techniques by accountants the preparers of the reports and management staff. The wide gap between accounting literature on SMA and accounting practice should be reduced through accelerated training programs by various professional accounting bodies and business schools to enable all concerned parties appreciate the importance of SMA techniques.

Other recommendations are:
- Due to the below average perceptions of management staff and their subsequent attitude towards SMA, a gradual road map to full implementation should be put in place to enable management staff review the impact of SMA on their decisions on tool by tool basis. This will create an eventual confidence in it.
- Managements should encourage the existing accountants and used other existing resources in the organization to prepare reports based on SMA, this will reduce the feared high cost of installing the system.
- Decision making should be strategic, relying on rule of thumb and other static tools will lead to financial losses hence accountants should play the role well by providing SMA reports promptly with precision to enable management place reliance on it. Any delay will make confidence in such reports low.
- The inherent hindrances are surmountable if management can show interest in SMA reporting, the peculiarity of the industry should be considered in resolving the inherent challenges facing the adoption of SMA tools.

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