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Correlational Evaluation of Cost Management and Supply Chain Performance of Food and Beverages Firms in Port Harcourt

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ABSTRACT

This study adopted a correlational investigation to examine the relationship between Cost Management and Supply Chain Performance of food and Beverages firms in Port Harcourt. The population for this study consists of seventeen (17) food and beverages firms in Port Harcourt. The researcher conducted a census study due to the small size of the population. However, a total of Eighty Five (85) top managerial staff of the firms constituted the respondents for the study. Furthermore, Eighty five (85) copies of the questionnaire were administered to the top managers of each of the 17 food and beverages companies while seventy (70) copies were retrieved and used for the study. The respondent's demographics were analyzed by employing the measures of central tendencies and measures of dispersions. Correspondingly, the Pearson Product Moment Correlation was used in testing the study hypotheses in other to ascertain the relationship between the predictor variable (Cost Management) and the criterion variable (Supply Chain Performance).The result of the analysis revealed that Cost Management significantly influenced Supply Chain Performance of food and Beverages firms in Port Harcourt. Hence, the authors concluded that Cost Management significantly affect Supply Chain Performance and therefore recommended that the management of food and Beverages firms in Port Harcourt should adopt appropriate cost management strategies in other to increase their level of supply chain performance.

Key Words: Cost Management, Product Quality, Customer Satisfaction, Food and beverages Firms and Supply Chain Performance.

INTRODUCTION

Food and Beverages industry is one of the highest growth sectors with the annual growth of 6.54% on average, and it contributes significantly to the economic growth of Nigeria. As declared by the Federal Ministry of Mines, Agriculture and Industry (2019), the food and

beverages industry is an essential contributing sector to the gross domestic product (GDP) of Nigeria. This is reasonable as this industry supply the fundamental need for the human life, and the growth directly correlates to the number of population. Data obtained from the National Bureau of Statistics (2018) indicated that the food and beverages industry accounted for 4.58% of the GDP. This contribution is substantial in the case of Nigeria. This high growth industry sector and the substantial potential domestic market had attracted the domestic and international investors to establish the food and beverages firms in Nigeria, especially in Port Harcourt Rivers State, since the state is one of the most populated states in Nigeria. However, this industry is currently facing deep uncertainty and highly dynamic environment for two reasons. First, the increased number of companies engaged in this industry has saturated and made the fiercer competition unavoidable following the law of supply and demand. Second, the raw material supply, which previously mostly supplied from the domestic agricultural product, is gradually becoming insufficient due to limited domestic supply capacity while the demand is gradually increasing, hence the need for strategic procurement practices in Nigeria food and beverages firms with emphasis on cost reduction.

Furthermore, today's dynamic food industry generates a highly competitive environment for food manufacturers and food retailers alike. Part of this ever-changing environment includes consolidation, new retail formats, and globalization. Food manufacturers must also contend with power shifts in the channel that favor retailers and create pressure on manufacturers to increase service while reducing costs. Food manufacturers therefore face a challenging prospect where service level, quality, and price expectations from retail customers and end consumers are high and continue to rise while pressure exists to keep prices table or even to reduce them. Purchasing, if managed effectively, offers opportunities for better cost control while improving service levels (Kocabasoglu and Suresh 2006).

Food and Beverages firms face a number of challenges which are likely to explain the performance of their supply chains and their survival. A study on Food and Beverages firms in Nigeria by Onugu (2005) found that less than 5% of the firms survive beyond their first year of existence because of the numerous challenges that limit their competitiveness.

However, most of what has been written about the relationship between cost management and procurement appears in the popular press and remains virtually unexplored in the academic literature. Some Food and Beverages firms supply chains in Nigeria are characterized by late deliveries, poor quality products or no deliveries at all, which are indicators of poor supply chain performance. This poor supply chain performance negatively impacts on their performance given that customers today evaluate firms based on the performance of its supply chain given that competition has shifted from between firms to between entire supply chains(Ntayi *et al*., 2009). When the supply chain of a firm fails to perform, it is competed out of the market and is therefore likely to "die".

Several studies have been conducted in the Food and Beverages industry involving different constructs of interest as identified by the researchers. Okello, Minishi, & Ikoja-(2008), studied the impact of information access on the performance of the SMEs in Northern Uganda. Ntayi, Rooks & Eyaa (2009) examined the impact of procurement practices, information technology flexibility and collaborative relationships on supply chain swiftness in retail stores in U.S.A. Studies have also been carried out to assess procurement practices in Saudi Arabia (Cox and

Lamming, 2007)), Botswana (Msimangira, 2003), Taiwan (Carr *et al*., 2000) and United Kingdom (Pittaway and Morrissey 2004). From the review of empirical literature, it appears that there is paucity of research on Cost Management and supply chain performance especially as it affects food and beverages firms in Nigeria. To this end therefore, this study is designed to investigate the relationship between Cost Management and Supply Chain Performance in Food and Beverages firms in Port Harcourt, Rivers State, Nigeria.

LITERATURE REVIEW

Theoretical Framework - Transaction Cost Analysis Theory

Transaction cost theory's basic premise is that the cost of doing transactions could be too high under certain conditions (Grover & Malhotra, 2003). Transaction cost theory is an economic approach (Williamson, 2008) and reflects different types of transaction costs (coordination, contracting deals and information sharing) (Eiriz & Wilson, 2006). Thus, this economic perspective needs to take into account the economic rationality of supply chain relationships. This perspective provides explanations for transaction dimensions (asset specificity, uncertainty and frequency) between firms and their relationships. Transaction cost theory explains how information advantage in a relationship is enjoyable and beneficial for firms and information sharing in business is a transaction cost (Eiriz & Wilson, 2006). Transaction cost theory contributes to the study of supply chain relationships and networks, and the efficiency of economic activities.

The behavioural assumptions are bounded rationality and opportunism, which forces firms to make self-enforcing promises to behave responsibly in terms of increasing their profit. Bounded rationality is accepting the limits of the human ability to process information comprehensively. Transaction cost theory views bounded rationality as a problem under conditions of uncertainty, which make it difficult to fully specify the conditions surrounding an exchange, thereby causing an economic problem (Grover & Malhotra, 2003). Opportunism is defined as "self-interest seeking with guile" by a human actor in business relationships (Williamson, 2008).

When high asset specificity is required, such as the assets that are required to produce a complex item, TCA theory predicts that global internal sourcing (hierarchies) will be the preferred method to minimize transactions costs (Murray 2001). However, a stream of research has emerged that questions the reliance on TCA and its ability to predict the purchasing exchange or structure that buyers will employ (Walker & Poppa 1991; Murray, 2001). This theory can be applied in this study because for supply chain performance to be enhanced members of supply chain managers need to adopt transaction cost reduction strategies since high transaction cost will significantly impact on total cost of production, product demand and ultimately on supply chain performance.

Understanding Cost Management

The importance of cost management application in material procurement and storage cannot be over emphasized. Cost management is the process of ensuring that organizational resources are optimally used to the benefit of the organization. In cost management, raw material cost, human resource and operational costs are reduced to the barest minimum that will enhance organization's operational efficiency. Cost management (CM) is the deliberate alignment of firms' resources and associated cost structure with long-term strategy and short-term tactics

(Anderson & Dekker, 2009a). Cost management often refers to cost cutting and it is a common approach that firm managers use to respond to the decreasing sustainable profitability (Anderson, 2007). The most important Managerial tools are cost management strategies (Zengin and Ada, 2010), and cost management strategies are considered as critical factors to increase revenue for the success of manufacturing companies (Kumar and Shafabi, 2011).

Research shows that many large companies in the US and Europe use reverse e- sourcing to reduce costs and that supply managers expect continued cost reduction in the future (Kaufmann and Carter, 2004). In reverse e- sourcing, suppliers compete dynamically, in real-time, for a buyer's business and typically bid down the price of an item to be purchased. Using the internet, suppliers submit multiple electronic bids during a fixed time period, often 30 minutes or less. Sourcing can reduce purchase prices, save time, streamline the bidding process, and enable suppliers from anywhere in the world to compete for a buyer's business thus enhancing organizational performance (Smart & Harrison, 2003). Risks of high costs include damaging supplier relationships, switching to suppliers who are not capable, underestimating the total costs associated with using suppliers with lower purchase prices, and negatively impacting the supply market in the long run by driving out qualified suppliers (Smeltzer & Carr, 2003). To attain the greatest benefits, purchasing processes should be evaluated and improved before implementation to take care of the cost function (Presutti, 2003).

Nature of Supply Chain Performance

In today's highly competitive environment, supply chain performance is very vital for the survival of firms because customers judge the performance of firm's basing on their supply chain performance. Competition is no longer between firms but between entire supply chains (Veludo *et al*., 2004). Worldwide, national economies are faced with the challenge of improving their supply chains. Given that majority of the firms in economies today are Small and Medium Enterprises (SMEs), they are the ones that are most affected by the daunting task of improving the performance of their supply chains.

Supply Chain Performance is defined as the multiple measures of performance developed by the organization to gauge the ability of a supply chain to meet an organization's long-term and short-term objectives. Performance measurement is the process of quantifying the effectiveness and efficiency of action Neely *et al*. (1995). The instrument that regularly supports the performance measurement process is referred to as performance measurement supply chain (PMS). A PMS maintains various metrics (performance measures) that are used for different purposes like supporting decision making and management control, evaluating the results, motivating people, stimulating learning, improving coordination and communication (Neely and Simons, 2005). A performance measure is information delivered to the management function, evaluating the efficiency and the effectiveness of a process, resource or an outcome.

According to Neely (2005) organizations of all sizes are realizing that they no longer have complete control over their market success. This is because they rely heavily on the performance of their supply chain trading partners. Many large organizations are now insisting that their small and medium industrial suppliers help them improve supply chain cost, reliability and responsiveness.

Beamon (1998) strongly implied that supply chain improvements will not only improve internal performance, but will also create benefits that will ripple through to customers and partners as well. Cost savings through reduced inventory levels, expediting, fulfillment and premium freight costs could allow a company to provide more favorable prices or terms to customers. Likewise, effective planning and execution can help companies and their customers adapt to the market's demand shifts. When the company can purchase, produce and distribute the right products to the right channels in the right quantities at the right time, both supplier and customer will increase revenue capture by channel and region.

All over in this universe reduced delivery time, reduced financial cost, higher customer satisfaction and very high level of trust among suppliers are the demonstrated results produced by supply chain management. Supply chain management (SCM) is the coordinated set of procedures which is used in receiving raw materials from suppliers, process those into final goods and then supply to end users. It is composed of chain-wide information, planning, resource management and performance measurement. The delivery of manufactured product items in shape of lead-time and cost has changed. The competition has risen and it became hostile in current times (Vogt & Wojak, 2007). The causes of this type of situation are very much demands, improvement in technology, the globalization and process effectiveness of Supply Chain Management on manufacturing and Fashion Industry of Pakistan (Chao & Pucik, 2005).

Supply chain performance refers to the extended supply chain's activities in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary inventory and capacity in the supply chain to deliver that performance in a responsive manner. Supply Chain Performance crosses company boundaries since it includes basic materials, components, subassemblies and finished products, and distribution through various channels to the end customer. It also crosses traditional functional organization lines such as procurement, manufacturing, distribution, marketing & sales, and research & development. One of the specific drivers of global procurement is the product quality based competition (Mwangi, 2013). To win in the new environment, supply chains need continuous improvement. To achieve this there is need for performance measures, or "metrics," which support global Supply Chain Performance improvements rather than narrow company-specific or function-specific (silo) metrics which inhibit chain-wide improvements. Supply chain performance measures can be classified broadly into two categories: qualitative measures (such as customer satisfaction and product quality) and quantitative measures (such as order-to-delivery lead time, supply chain response time, flexibility, resource utilization, delivery performance, etc.). In this study we considered only the qualitative performance measures as opined by Kavoo and Gichure, (2006).The qualitative supply chain performance measures used for the study include: Customer satisfaction and Product quality. The discussion on the measures of Supply chain performance used for the study is given in the preceding section as follows:

Customer Satisfaction

In a competitive market place where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. There is a substantial body of empirical literature that establishes the benefits of customer satisfaction for firms including the Nigerian Food and Beverages sector. It has been empirically proven that satisfied customers are the key to long-term business survival and supply chain performance organizational (Suda and Surunya 2001). Quality (of a product or service) and

customer satisfaction are the key factors of a company performance, survival, and productivity which has been confirmed by many studies (Matzler *et al,* 2004). Customer satisfaction is generally defined as a feeling or judgment by customers towards products or services after they have used those (Jamal & Naser, 2003). The meaning and interpretation of customer satisfaction differ from one customer to another and from one industry to another. In the Nigerian Food and Beverages sector, customer satisfaction can be attained when employees in the food and beverages firms display professionalism and excellence in service delivery, offer enhanced quality product and delivery, regular product availability, Product cost reduction, Timeliness in product delivery, to mention but a few.

Companies that have a more satisfied customer base also experience higher economic ventures. Consequently, higher customer satisfaction leads to greater customer loyalty and ultimately impact on the overall firm's level of performance. The key to long term survival and performance in the Nigerian Food and Beverages sector is seriously anchored on customer satisfaction. Because of the level of competition existing in the Nigerian Food and Beverages sector, most of the firms are compelled to assess the quality of the services that they provide in order to attract and retain their customers.

There are many definitions of customer satisfaction as conceptualize by different researchers. However, most of them opined that customer satisfaction is an individual's feeling of pleasure (or disappointment) resulting from comparing the perceived performance or outcome in relation to the expectation (Suda and Surunya 2001; Rubogara, 2017; Kang & James, 2004; Wang & Wang 2006). In addition, customer satisfaction is defined as the difference between a customer's expectation of services and the actual service performance. When the performance of a service or product is far higher than customer expectation of the product or service, the customer is said to be satisfied.

Customer satisfaction can thus be understood as the result of subjective process – the customer compares his ideas with perceived reality (Anderson & Mittal 2004, Kuronen &Takala, 2013). Such a definition of customer satisfaction is consistent with the transaction – specific concept, which evaluates specific buying opportunities after the completion of the selection (and possible) purchase of a product. Anderson & Mittal 2005; Selnes (2003) similarly defines customer satisfaction as the post-choice evaluative judgment of a specific transaction.

The relevance of customer satisfaction as a measure of supply chain performance in the Nigerian Food and Beverages sector cannot be over-emphasized. When company customers are satisfied, they are retained, make repeat purchase, serve as referral agents, and are made to be loyal. Undoubtedly, these positive outcomes will ultimately improve a firm's level of performance.

Product Quality

Juran (2003) and Montgomery (2007) defined "Quality" as "fitness for use" and Defeo [2010) opined that "quality means fitness for purpose". In statistical terms, quality is largely determined by the amount of variability in what is being measured and also product quality refers to a fitness of product to meet customers' needs and satisfaction (Ryan, 2001).

Feigenbaum (cited in Reeves & Bednar, 2004) defines product quality as "the composite of product characteristics of engineering and manufacture that determine the degree to which the product in use will meet the expectations of the customer". Fujimoto (1999) presents that the concept of product quality, in his framework, is related to fitness of information content or accuracy of information processing along a chain of productive resources that link customer needs, product concepts, product plan (basic design),product design, process design, process, product structure and product function. He divides total quality into two categories: *design quality* and *conformance quality* that design quality include ,customer needs, product concept and product plan (basic design)and also conformance quality consists product design, process design, process, product structure and product function.

Product quality is durability of products that acts as catalyst for consumer demands of safe products and customer satisfaction. These factors provide the ability for businesses to enhance their bottom-line through sustained revenue acquisitions to meet or exceed stated revenue objectives (Gitman & McDaniel, 2005). Flavio, Filho and Bonney (2009), and Verhoef and Lemon, (2013) believed there is a way to integrate product quality and quality control for repetitive production systems on the production line to boost customer satisfaction. Raturi and Evans(2004),and Xu, Leung, and Yan, (2013) believed consumers have the final say on quality, which means that quality efforts not only focus on simply meeting the specifications and reducing defects and variations but also ensuring the reliability of products when they reach the consumers. Increased product durability or design lifetime mapped into an additional flow of utility from the system (Saleh, 2008). Product quality has direct link with positive effect on market share (Tellis, Yin, & Niraj, 2009). Improving insights of the quality of goods motivate customer satisfaction (Chebat, Davidow, & Borges, 2010). Hence, quality impact on customer satisfaction affects higher lifetime value for consumers and businesses (Hamel, 2010; Fetscherin &Toncar, 2009; Verhoef, & Lemon, 2013).Superior product quality (Tsekeris,2010, Wolf, 1986) lead to good reputation of firms (Yanamandram & White, 2010). Hence, great number of CEOs establishes strategic goals for quality improvement and performance monitoring to improve product quality (Juran, & De Feo, 2010).). Herrington and Weaven (2009) echoed Feigenbaum (1991) findings and argued for the introduction of quality control and high-quality production to appraise product safety that leads consumer satisfactions.

Cost Management and Supply Chain Performance

Cost management (CM) is defined as "deliberate decision making aimed at aligning the firm's cost structure with its strategy and optimizing the performance of the strategy"Anderson, (2007).In supply chain management, cost reduction is one of the most cited objectives (Seuring, (2002), and for more than half of the top executives, cost reduction is a primary strategic goal for supply chain management (Anderson & Dekker, 2009a). Improving supply chain performance also became one of the critical issues to gain competitive advantage (Cai, Liu, Xiao, & Liu, 2009). Most related researches have focused on either strategic cost management in the supply chain or performance management in the supply chain. Cost management within a supply chain management domain has lately received a great deal of interest from academics and practitioners; however, the literature is still dominated by conceptual and anecdotal work.

The major issue is that it is difficult at best to draw conclusion with any level of confidence concerning the actual degree of usage of various cost management practices. In the current business environment characterized by intense competitive pressures, organizations need to

implement strategies to manage costs and reduce these costs not only on a short-term basis, but also over the long term (Nimocks, Rosiello, & Wright, 2005). Furthermore, cost management (CM) is the deliberate alignment of firms' resources and associated cost structure with long-term strategy and short-term tactics (Anderson & Dekker, 2009a). It represents one aspect of a larger stream of research devoted to strategic management accounting (i.e., Bromwich, 1990; Cadez & Guilding, 2008; Roslender & Hart, 2003). Drawing on the work of Tomkins and Carr (1996), Anderson (2007) describes two forms of SCM: (i) structural cost management, and (ii) executional cost management. Both have always been central to profitable firms (Anderson & Dekker, 2009b). Structural cost management refers to the cost management activities aimed at changing the cost structure of the firm. It includes organizational tools, products and processes designed to build a cost structure that is coherent with strategy. It basically refers to the strategic decisions that typically define the gross parameters of the firm's cost structure. Executional cost management refers to the cost management activities aimed at improving performance for a given strategy. It is based on common management accounting tools used to measure cost performance in relation with competitive benchmarking used to identify improvement opportunities. It basically refers to the analysis of performance following strategic decisions. In other words, the purpose of SCM (Strategic cost management) is to align a firm's resources and associated cost structure with: (i) short-term tactics through cost reductions (executional cost management), and (ii) long-term strategy through the reengineering of the value chain and production of a different cost structure (structural cost management).

Cost management often refers to cost cutting and it's commonly approached that firm managers Use to respond to the decreasing sustainable profitability (Anderson, 2007). The most important Managerial tools are cost management strategies (Zengin and Ada, 2010), and cost management Strategies are considered as critical factors to increase revenue for the success of manufacturing companies (Kumar and Shafabi, 2011).

Cost management strategy supports decision making and improves competitive advantage that results in a better resource allocation (Ellram and Stanley, 2008). In addition, cost management may be an integral feature of overall businesses' management effectiveness and facilitate to determine accurately estimated cost before process starting and can help to forecast cost occurrence in the future. Cost management strategy effectiveness helps to finish the task with the spending of limited allocated resources and makes valuable to firms such as working capital invested reduction, lower cost per unit, and better quality of the process and product (Groth and Kinney, 1994).

Nagle, Finnegan, and Hayes, (2006) argues that costs have to be managed well to achieve the firm's performance goals. There are several key success factors, related to both the competency of the service provided by an online auction intermediary and to the organizations own internal capabilities. One key success factor relating to cost management is technical capability of the system. Nagle, Finnegan, and Hayes, (2006) specified technical service quality in terms of system cost (security, reliability, easy to use, accessibility) and service quality (e.g. responsiveness of service). In addition, trust in the service provider is another major success factor for strategic procurement adoption (Venkatesh, 2009).

Cost management, defined in most studies, concerns with investment in projects to gain returns, for example, the study of Botín and Vergara (2015) claimed that management of operating costs is necessary in building sustainability of economy. Consequently, activity-based costing (ABC) and PDCA'sDeming cycle have been applied to develop a cost management system for continual improvement of operation and efficient reduction of cost. Henri *et al*. (2016) also examined cost management strategies and overall financial operations of organizations with data collection from 319 manufacturing-related firms of Canada. The study found that cost management has significantly positive relation with overall financial operations and is also considered as a long-term strategy to improve supply chain systems and manufacturing of different cost structure. Hussin *et al*. (2013) investigated necessary cost management skills for owners of SMEs as they found that SME owners in Malaysia lacked of cost management skills, while the Malaysian government encouraged cost management trainings. Cost management is important for enterprises as follows: (1) firms are able to negotiate price with buyers to create sustainable profit; (2) it helps reduce operational risks; (3) accurate prediction of activity cost control deviation of manufacturing and operation; and (4) correct cost estimation enables firms to control stocked products administration effectively.

Strategic management accounting and cost management practices are concerned with the provision, analysis and use of information in order to assist managers in decision making and managerial control. Cost management is not an end in itself, but a means to support an organization in achieving its goals, such as boosting profits by aggressively lowering costs (Guilding *et al.*, 2000; Shank and Govindarajan, 1989). With the emergence of Supply Chain Management (SCM), successful firms have started to extend their cost management activities beyond the boundaries of the firm. Few studies on (selected) cost management practices in SCM demonstrate that firms can in fact benefit from implementing them. For example, in their empirical study, Carr and Smeltzer (1999) found that benchmarking in purchasing is positively related to a company's strategic purchasing and firm performance. One conclusion of Dekker and van Goor's (2000) case study of an activity-based costing model to support SCM is that accounting measures are important – though not sufficient – for the success of SCM. In another case, the Balanced Scorecard (BSC) has been discussed extensively since the initial development by Kaplan and Norton in the early 1990s, yet it only recently has been discussed in the supply chain context. There is some research evidence indicating that BSC adopters that explicitly link their measures across all perspectives of the scorecard, and that gather data supporting or refuting these hypothesized relationships outperform BSC adopters that do not explicitly link their measures (Ittner and Larcker,2003).Cost management plays an important role when it comes to influencing the effectiveness of SCM activities and the behaviour of people engaged in the purchasing, supply and logistics processes(Cooper and Slagmulder, 2004; Ellram, 2002; Kulmala *et al.*, 2002). The net result of adopting cost management practices in this context should be to facilitate the successful implementation of SCM (Axelsson *et al.*, 2002; Gunasekaran *et al.*, 2001; Mentzer and Konrad, 1991). However, from the empirical review of literature, it appears that a relationship exist between cost management and supply chain performance. On the basis of this assertion, the authors hypothesize as thus:

Ho_1: Cost management does not have any significant relationship with customer satisfaction in food and beverages firms in Port Harcourt**.**

Ho_2: Cost management does not have any significant relationship with product quality in food and beverages firms in Port Harcourt.

However, a conceptual framework of the relationship between Cost Management and Supply Chain Performance is depicted in figure 1 as follows:

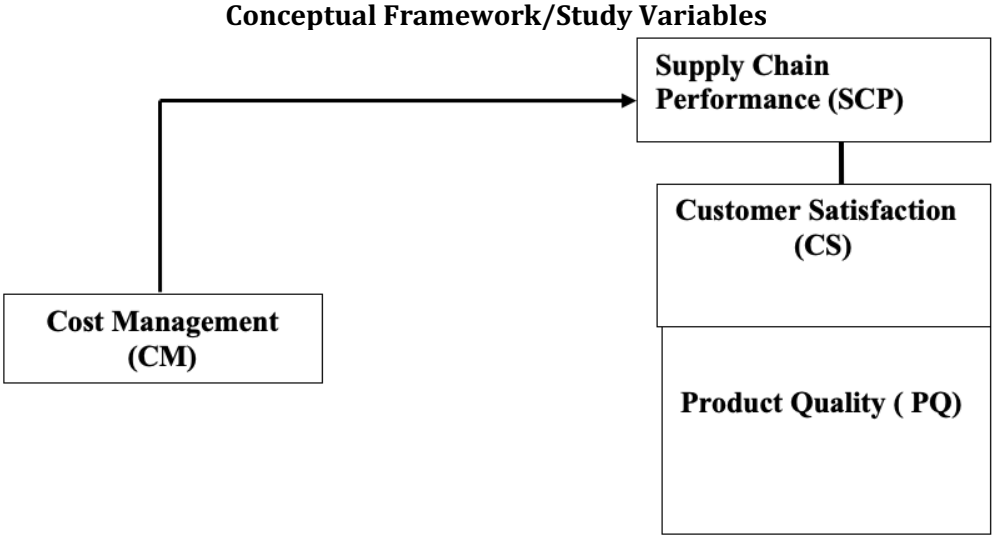


Figure 1: Conceptual framework of the relationship between Cost Management and Supply Chain Performance

Source: Authors conceptualization from the review of relevant literature, 2021

STUDY METHODOLOGY

The research approach adopted in this study is the non- experimental research type and it was designed based on the cross-sectional survey method which offers a wide coverage and permits generalizability of research findings. . The population for this study consists of seventeen (17) food and beverages firms in Port Harcourt. These firms are functional and also registered with the Nigeria Directories (2018), and the Rivers State Yellow Pages Directory (2013-2014). The researcher conducted a census study due to the small size of the population. However, a total of Eighty Five (85) top managerial staff of the firms constituted the respondents for the study. Furthermore, Eighty five (85) copies of the questionnaire were administered to the top managers of each of the 17 food and beverages companies while seventy (70) copies were retrieved and used for the study. Structured copies of Questionnaire was the instrument used in collecting primary data from the respondents which were designed in the Likert five-point scale of strongly agree to strongly disagree.

More so, the validity of the scales used in this study was assessed for content, construct and face validity. The content validity was ensured based on review of similar constructs from major variables of the study (Cost Management and supply chain performance of food and beverages firms in Port Harcourt, Rivers State Nigeria. In construct validity, the questionnaire used by Hussin *et al*. (2013) Botín and Vergara (2015) and especially Henri *et al.* (2016) on Strategic Cost Management and Performance: The Case of Environment Costs was adapted, modified and refined to suit our study. More so, the face validity of the research instrument was ensured by senior academics and other experts in measurement and evaluation studies. They assessed the relevance of each item, in line with the specific purpose of the study and the hypotheses that were tested and the adequacy of the items with regards to measuring the variables they were designed to measure, as well as the ease with which each of them was

scored and used in the analysis of data. Similarly, the authors used the Cronbach's Alpha analysis to ascertain the reliability and internal consistency of the measurement instrument while the Pearson Product Moment Correlation (PPMC) was used in testing the relationship between (Cost Management and supply chain performance of food and beverages firms in Port Harcourt, Rivers State of Nigeria with the aid of the Statistical Package for Social Sciences (SPSS) version 22.0, Table 1, shows the instrument reliability rate for the constructs of the study.

Table 1: Reliability Coefficients of Cost Management and Supply Chain Performance

Variables	Construct	No. of Items	Alpha (α)
Cost Management	Cost Management	5	0.774
Supply Chain Performance	Customer Satisfaction	5	0.748
	Product Quality	5	0.756

Source: Survey Data, 2021

Table 1, depicts the instrument reliability result for three constructs. The results indicated high reliability values for the research instruments used in the study. This therefore entailed that the research instruments used for the study had satisfactory construct reliability.

Univarate Data Analyses

Univarate analysis is basically the process of describing individual variables in a study. According to Sullivan (2001), univariate statistics are used to describe the distribution of a single variable through the use of simple frequency tables. According to Saunders *et al* (2003), commencing initial analysis is best done by looking at individual variables and their respective components. Earlier in this study, we clearly delineated our study variables as –Cost Management - predictor variable; and Supply Chain Performance as the criterion variable.

Table 2. Response Rates and descriptive statistics for cost management

	Cost Management	SA (5)	A (4)	U (3)	D (2)	SD (1)	Mean	Std.
1.	Management has deliberate policy to reduce operational cost.	24	26	6	6	8	3.74	1.326
2.	Management saves costs without touching or compromising product quality.	14	40	4	6	6	3.71	1.144
3.	In our company, cost price is taken into account when developing products.	32	16	6	10	6	3.83	1.372
4.	In our company we always look for ways to reducing cost price of our products by removing unnecessary product components.	22	38	-	6	4	3.97	1.090
5.	Our supply chain performance is enhanced because of our efficient cost management strategies.	18	30	6	6	10	3.57	1.347

Source: Research Survey Data, 2021

Table 2. Shows the response rates and descriptive statistics for cost management. Item 1, showed that management has deliberate policy to reduce operational cost. This response got a high mean score of 3.74. Likewise, it was agreed that management saves costs without touching or compromising product quality. This Item 2, also attracted a high mean score of 3.71. Item 3 also got an affirmation that in their company, cost price is taken into account when developing products. This was attested to by a very high mean score of 3.83. The fourth item also got an affirmation that in their company we always look for ways to reducing cost price of our products by removing unnecessary product components. This was attested to by a very high mean score of 3.57. The fifth item also got an affirmation that their supply chain performance is enhanced because of our efficient cost management strategies. This was attested to by a very high mean score of 3.76.

Table 3. Descriptive Statistics for supply chain performance

	N	Minimum	Maximum	Mean	Std. Deviation
Customer Satisfaction	70	2.20	4.60	3.8429	.57573
Product Quality	70	1.60	5.00	4.0229	.74175
Valid N (listwise)	70				

Source: Research Data 2021, (SPSS output version 23.0)

Table 3, above illustrates the descriptive statistics for supply chain performance which are customer satisfaction and product quality with mean scores of 3. 3.8429 and 4.0229.The high values of the results there in entail that the attributes used here positively describe the criterion variable, supply chain performance.

Test of hypotheses, results and discussions of findings.

Ho_1: Cost management does not have any significant relationship with customer satisfaction in food and beverages firms in Port Harcourt.

Table 4. Test for Relationship between cost management and customer satisfaction

		Cost Management	Customer Satisfaction
Cost Management	Pearson Correlation	1	.566**
	Sig. (2-tailed)		.000
	N	70	70
Customer Satisfaction	Pearson Correlation	.566**	1
	Sig. (2-tailed)	.000	
	N	70	70

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Research Data 2020, (SPSS output version 23.0)

Table 4, Shows the result of correlation matrix obtained between cost management and customer satisfaction. Similarly displayed in the table is the statistical test of significance (p - value), which makes possible the generalization of our findings to the study population. From the result obtained in Table 4, above, the correlation coefficient (rho) showed that there is a significant relationship between cost management and customer satisfaction. The correlation coefficient of 0.566 confirms there is a moderate correlation between the variables. Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate

upheld. Thus, there is a significant relationship between cost management and customer satisfaction in food and beverages firms in Port Harcourt.

Ho_2: Cost management does not have any significant relationship with product quality in food and beverages firms in Port Harcourt.

Table 5. Test for Relationship between cost management and product quality

		Cost Management	Product Quality
Cost Management	Pearson Correlation	1	.704
	Sig. (2-tailed)		.000
	N	70	70
Product Quality	Pearson Correlation	.704	1
	Sig. (2-tailed)	.000	
	N	70	70

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Research Data 2020, (SPSS output version 23.0)

Table 5, shows the result of correlation matrix obtained between cost management and product quality. Similarly displayed in the table is the statistical test of significance (p - value), which makes possible the generalization of our findings to the study population. From the result obtained in Table 4.5 above, the correlation coefficient (rho) showed that there is a significant relationship between cost management and product quality. The correlation coefficient of 0.704confirms there is a strong correlation between the variables. Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between cost management and product quality in food and beverages firms in Port Harcourt.

DISCUSSION OF FINDINGS

Relationship between Cost Management and Supply Chain Performance

The tests of hypotheses in Table 4 and Table 5 respectively revealed that there is a significant positive relationship between cost management and supply chain performance in food and beverages firms in Port Harcourt. This finding confirms the views of Ellram and Stanley (2008) that the cost management strategy supports decision making and improves competitive advantage that results in a better resource allocation. In addition, cost management may be an integral feature of overall businesses' management effectiveness and facilitate to determine accurately estimated cost before process starting and can help to forecast cost occurrence in the future. Cost management strategy effectiveness helps to finish the task with the spending of limited allocated resources and makes valuable to firms such as working capital invested reduction, lower cost per unit, and better quality of the process and product (Groth and Kinney, 1994).

The current study finding agrees with the earlier finding of Henri *et al.* (2016) who previously examined cost management strategies and overall financial operations of organizations in Canada. The study found that cost management has significantly positive relation with overall financial operations and is also considered as a long-term strategy to improve supply chain systems and manufacturing of different cost structure. Hussin *et al*. (2013) investigated

necessary cost management skills for owners of SMEs as they found that SME owners in Malaysia lacked of cost management skills, while the Malaysian government encouraged cost management trainings. Cost management is important for enterprises as follows: (1) firms are able to negotiate price with buyers to create sustainable profit; (2) it helps reduce operational risks; (3) accurate prediction of activity cost control deviation of manufacturing and operation; and (4) correct cost estimation enables firms to control stocked products administration effectively.

It is gratifying to not that our finding lends support to the previous finding of Carr and Smeltzer (1999) whose study found that benchmarking in purchasing is positively related to a company's strategic purchasing and firm performance. One conclusion of Dekker and van Goor's (2000) case study of an activity-based costing model to support SCM is that accounting measures are important – though not sufficient – for the success of SCM. In another case, the Balanced Scorecard (BSC) has been discussed extensively since the initial development by Kaplan and Norton in the early 1990s, yet it only recently has been discussed in the supply chain context. There is some research evidence indicating that BSC adopters that explicitly link their measures across all perspectives of The scorecard, and that gather data supporting or refuting these hypothesized relationships outperform BSC adopters that do not explicitly link their measures (Ittnerand Larcker,2003).

Cost management plays an important role when it comes to influencing the effectiveness of SCM activities and the behaviour of people engaged in the purchasing, supply and logistics processes(Cooper and Slagmulder, 2004; Ellram, 2002; Kulmala *et al.*, 2002). The net result of adopting cost management practices in this context should be to facilitate the successful implementation of SCM (Axelsson *et al.*, 2002; Gunasekaran *et al.*, 2001; Mentzer and Konrad, 1991). However, from the empirical review of literature, it appears that a relationship exist between cost management and supply chain performance.

CONCLUSION

The importance of cost management application in material procurement and storage cannot be over emphasized. Cost management is the process of ensuring that organizational resources are optimally used to the benefit of the organization. In cost management, raw material cost, human resource and operational costs are reduced to the barest minimum that will enhance organization's operational efficiency. Cost management (CM) is the deliberate alignment of firms' resources and associated cost structure with long-term strategy and short-term tactics (Anderson & Dekker, 2009a). This article has elaborately discussed the underpinning concepts surrounding Cost Management and Supply Chain Performance of Food and Beverages firms in Port Harcourt. Empirical evidence obtained from the analysis of data and the review of extant literature suggests that Cost Management relates positively with Supply Chain Performance with its proxies as Customer Satisfaction and Product Quality. Conversely, Cost management is an essential determinant of successful business that enhances marketing operations and culminates in improving supply chain effectiveness. Consequent on the findings of the study, the authors concluded that cost management positively affect Food and Beverages firms in Port Harcourt and thus recommended that Food and Beverages firms in Port Harcourt should adopt efficient cost management strategies in other to be improve their supply chain performance.

References

Anderson, E. W. & Mittal, V. (2004). Customer satisfaction and shareholder value. *Journal of marketing*, *68*(4), 172-185.

Anderson, S. W. (2007). Managing costs and cost structure throughout the value chain: research on strategic cost management. In C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbook of management accounting research* (p. 481). Oxford, UK: Elsevier.

Anderson, S. W., & Dekker, H. C. (2009b). Strategic cost management in supply chains, part 2: executional cost management. *Accounting Horizons*, *23*(3), 289-305.

Axelsson, B., Laage-Hellman, J. & Nilsson, U. (2002) .Modern management accounting for attributes in the context of the German automobile market. *Journal of Brand*

Beamon, B. M. (1998). *Supply chain design and analysis: Models and methods.* Oxford, UK: Elsevier.

Botín, J.A., & Verara, M.A. (2015). A Cost Management Model for Economic Sustainability and Continuous Improvement of Mining Operations. *Resources Policy* 46: 212-218.

Bromwich, M. (1990). The case for strategic management accounting: the role of accounting information for strategy in competitive markets. *Accounting, Organizations and Society*, *15*(1/2), 27-46.

Cadez, S., &Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, *33*, 836-863.

Carr, A.S., Leong, G.K. & Sheu, C. (2000). A study of purchasing practices in Taiwan. *International Journal of Operations and Production Management, 20* (12): 1427-1445.

Chao. H.J. & V. Pucik. V.(2005). Relationship between Innovativeness, Quality, Growth, Profitability, and Market Value, *Strategic Management Journal,* 26, (6) , 555-575.

Chebat, J., Davidow, M., & Borges, A. (2011). More on the role of switching costs in *Consumer Behavior, 12*(4), 285-292. doi:10.1002/cb.1419.

Cooper, R. & Slagmulder, R. (2004) . Interorganizational cost management and relational *costing approach*. *International Journal of Production Research 12* (2), 20-35.

Defeo J.J.(2010*). Quality handbook: The complete guide to performance excellence*, in, New York, NY: McGraw-Hill.

Dekker, H.C. & Van Goor, A.R. (2000). Supply chain management and management accounting: a case study of activity-based costing', *International Journal of Logistics: Research and Applications*, April, 3, (1), 41–52.

Ellram, L. M. & Stanley, L. L.(2008). *Integrating strategic cost management with a*Dissatisfied business services customers using structural equation modeling.

Feigenbaum, A. V. (1991). *Total quality control*. New York, NY: McGraw-Hill.

Fetscherin, M., &Toncar, M. F. (2009). Valuating brand equity and product-related analysis. *Accounting, Organizations & Society*, January, 29,(1), 1–26.

Fujimoto T. (1999). The evolution of a manufacturing system at Toyota Products *Harvard Business Press.*

Gitman, L. J., & McDaniel, C. D. (2005). The *future of business*: *The essentials*. Mason, *Australasian Marketing Journal (AMJ), 18*(4), 222-232.

Giunipero, L. & Flint,D.J. (2001). Purchasing practices in Saudi Arabia - an exploratory analysis. *Int. J. Phys. Dis. Logistics Management, 31*(9): 674-692.

Grover, V. & Malhotra, M., K. (2003). Transaction cost framework in operations and supply chain management research: theory and measurement, *Journal of Operations Management, 21, 457–473.*

Hamel, M. (2010). *Kaizen Event Fieldbook: Foundation, Frame work and Standard3DCE Environment: Strategies, practices, and benefits*. *Journal of purchasing and supply* 21, (1–2), 71–87.

Henri, J.F., Boiral, O., & Roy, M.J. (2016) . Strategic Cost Management and Performance: The Case of Environment Costs. *The British Accounting Review* 48: 269-282.

Henri, J.F., Boiral, O., & Roy, M.J. (2016) . Strategic Cost Management and Performance: The Case ofEnvironment Costs. *The British Accounting Review* 48: 269-282.

Hussin, M.R.A., Alias, R.A., & Ismail, K.(2013). An Action Research Approach for the Development of Cost Management Skills Training Program among the Owners of Small and Medium Enterprises (SMEs) In Malaysia. *Proceeding of Social and Behavioral Sciences* 91: 515-521.

Ittner, C.D. &Larcker, D.F. (2003) . Coming up short on nonfinancial performance measures, *International Journal of Production Economics 55* (3), 281-294.

Juran J.M. (2003). *Leadership for quality*, Free Press. United Kingdom.

Kang, G., & James, J., (2004). Service quality dimensions: An examination of Gronroo's service quality model. *Managing service quality*. 14; 266-277.

Kavoo, B.M. & Gichure, J.M. (2016). Influence of global sourcing and supply chain performance in the manufacturing sector in Kenya. *International Academic Journal of Procurement and Supply chain Management, 2* (1), 50-65

Keeber, J. S. (2000). The state of logistics measurement, *Supply Chain and Logistics Journal, 2001* (1), 201 -211.

Kocabasoglu, C. &. Suresh.N.C (2006) .Strategic Sourcing: An Empirical Investigation of the Concept and Its Practices in U.S. Manufacturing Firms. *The Journal of Supply Chain Management* 42(2):4–16.

Kuronen, M., & Takala, J. (2013). Measuring and developing customer satisfaction with the balanced critical factor index method. In Diversity, technology, and innovation for operational competitiveness. *Proceedings of the 2013 International Conference on Technology, Innovation and Industrial Management. To know press,* 54-236-244.

Mentzer, J.T. & Konrad, B.P. (1991) . An efficiency/effectiveness approach to logistics. *European Journal of Purchasing & Supply Management*, 7(6), 35-48.

Montgomery D.C. (2007). *Introduction to statistical quality control,* Wiley-India.

Msimangira, K. (2003). Purchasing and supply chain management practices in Botswana. Supply Chain Management: *An International. Journal, 8*: 7-11.

Neely, A., Mike, H, & Ken, P. (1995). Performance measurement system management accounting practices, *Management Accounting Research*, *11*(1),113–135.

Nimocks, S. P., Rosiello, R. L., & Wright, O. (2005). Managing overhead costs. *The McKinsey Quarterly*, *2*, 106-117.

Novack, R.A., & Simco, S.W., (1991). The industrial procurement process: a supply chain perspective. *Journal of Business Logistics 12* (1), 145–167.

Ntayi, J.M., Rooks, G & S. Eyaa, (2009). Supply chain swiftness in a developing country: The case of Ugandan small and medium sized enterprises. *E-Journal of Business and Economics ,Spring, 4*(1). 25- 45.

Okello-Obura, C. M.K., Minishi-Majanja, L. C., & Ikoja-Odongo, J.R. (2008). Sources of business information and means of access used by SMEs in Uganda: The case of Northern Uganda. *Lib. Inform. Sci. Res. Electron. J., 18*(1): 1-13.

Onugu, N.B.A., (2005). Small and Medium Enterprises (SMEs) in Nigeria: Problems and prospects. St. Clements University, Nigeria (*Unpublished Dissertation for a Doctor of Philosophy in Management Award).*

Pittaway, L. & B. Morrissey. (2004). A study of procurement behavior in small firms. *Journal of Small Business. Enterprise Dev, 11* (2): 254-262.

Reeves, C.A. & Bednar, D.A.(2004). Defining quality: alternatives and implications, *Academy of Management Review,* 1994; 419-445.

Robogara, F. (2017). Service quality and customer satisfaction in selected banks in Rwanda. *Journal of Business and Financial Affairs*. 6(1), 2-11.

Roslender, R., & Hart, S. J. (2003). In search of strategic management accounting: theoretical and field study perspectives. *Management Accounting Research*, *14*, 255-279.

Ryan T.P. (2011*).Statistical methods for quality improvement*, Wiley. U.S.A.

Saleh, J. H. (2008). Analysis of marginal cost of durability and cost per day: A first step Public Procurement. *European Law Review*, 27(6) , 714-735.

Selnes, F. (2003). An examination of the effect of product performance on brand reputation, satisfaction and loyalty. *European Journal of marketing,27*(9), 19-35.

Suda, S. & Surunya, L. (2001). An investigation of the relationship among service quality, customer satisfaction, customer loyalty and word of mouth communication in retail store*. Graduate school of commerce, Burapha University.*

Veludo M., & Macbeth, D.K(2004). Partnering and relationships within an international network context.., *Int. Market. Rev,* 21 (2): 142-157.

Venkatesh, V. (2000). *Determinants of perceived ease of use: integrating control, intrinsic* Prentice-Hall, Hemel Hempstead, UK.

Verhoef, P. C., & Lemon, K. C. (2013). Successful customer value management: Keyservice markets: A research note. *Journal of Business Research 64*(8) 823–829.

Vogt, P. & Wojak, A. (2007). *Carrier Opportunities in the fashion Industry*. *Checkmark books* (Aug, 200).

Wolf, F. M. (1986). *Meta-analysis: Quantitative methods for research synthesis* -

Work for Effective Events. Society of Manufacturing Engineers. 36. Canada.

Xu, H., Leung, A., & Yan, R. (2013). It is nice to be important, but it is more important *performance excellence,* New York, NY: McGraw Hill.

Yanamandram, V., & White, L. (2010). An empirical analysis of the retention of performance analyses, *Journal of Business Logistics*, 12, (1), 33–62.

Zengin, Y, & Ada, E. (2010). *Cost Management through product design: Target Supply Chain Managemen*t 12:96.