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# IMPACT OF SUPPLY CHAIN MANAGEMENT ON THE FINANCIAL PERFORMANCE OF LISTED SOFT DRINK MANUFACTURING COMPANIES IN ENUGU, SOUTH EAST NIGERIA: A VALUE CHAIN PERSPECTIVE

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## ABSTRACT

Effective supply chain management has become a potentially valuable way of securing competitive advantage and improving organizational performance since competition is no longer between organizations, but among supply chains. The main objective of the study was to examine the impact of supply chain management on the financial performance of listed soft drink manufacturing companies in Enugu, South East Nigeria for the period of 2012-2016. The study uses a descriptive design. The sample of the study was 40 management staff of Nigerian Bottling Company and Seven-Up Bottling Company in supply chain related departments. Total Population sampling technique was used for the sample size. The study adopted inferential statistics of linear regression for data analysis. It was found that supply chain management significantly influenced the financial performance of listed soft drink manufacturing companies in Enugu, South East Nigeria for the period. The study concludes that supply chain management practices such as strategic supplier relationship, electronic data interchange and inventory management play an important role in a firm's financial performance as they affect return on investment significantly. The study recommends that the companies should pay more attention to these supply chain management practices as they have a significant impact on their financial performance. The companies should show more commitment towards long-term strategic and collaborative relationships with their key components suppliers as this would enhance their financial performance in the long run.

**KEY WORDS:** *Supply Chain Management, Strategic Supplier Relationship (SSR), Electronic Data Interchange (EDI), Inventory Management (IM), Outbound Logistics Integration (OLI) and Financial Performance*

## 1.1 INTRODUCTION

### BACKGROUND ISSUES

Over the past three decades, the concept and application of supply chain management practices have gained momentum in the business landscape. The philosophy behind the concept of supply chain management is the realization that no single firm is responsible for the production of a product or provision of service. Every product or service that reaches the final user represents the cumulative effort of several independent firms that are linked together in a value-creating demand-supply relationship as products and information move from origin to point of consumption. This implies that every firm forms an important link in the chain.

There has been a lot of debate on the relationship between supply chain management and the financial performance of its members. As competition and market pressures spiraled so did the challenges associated with getting a product and service to the right place at the right time at the lowest cost. This situation has forced many manufacturing organizations to look at their supply chains with a view to identifying possible weak links. Every organization is a member of a wider supply chain. This view is increasing their recognition that it is not enough to improve performance within an organization, but the supply chain as a whole has to be made competitive. With this conviction, the understanding and practicing of supply chain management (SCM) has become an essential prerequisite for staying competitive in the global business race and for enhancing profitability. Supply chain management is anchored on some important activities without which it may be difficult to comprehend its logic or worst still, decouple the integral elements that constitute the whole. Practices like strategic supplier relationships, electronic data interchange, integrated logistics, and inventory management are important to the success of supply chain management in enhancing the financial performance of manufacturing firms.

The concept of strategic supplier relationships suggests a long-term relationship between the organization and its upstream suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations that are members of a supply chain to help them achieve significant ongoing benefits (Stuart, 1997). A supply chain does not work effectively where there is no long-term alliance between chain members. Strategically aligned organizations can work closely together and eliminate wasteful time and effort (Balsmeier & Voisin, 1996). An effective supplier partnership can be a critical component of a leading edge supply chain (Noble, 1997).

Information sharing is as important to the supply chain as other resources are. The firms in a supply chain are not physically connected to each other. They are bound by real-time data exchanges which enables them to function in a coordinated manner. Electronic data interchange is a practice that is crucial to the functioning of supply chains to the extent that it is unthinkable for them to exist without real-time end-to-end transmission of information enabled by EDI.

Another important supply chain management activity is inventory management. Inventory management involves all activities which are done for the continuous supply of materials with optimal costs. Basically, inventory management has two goals. First goal is to avail the goods at right place in right time. Because it is very important to keep operation running to give specific service. Second goal is to achieve the service level against optimal cost. An efficient supply chain minimizes inventory investment which in turn, lowers inventory costs and improves the return on investment.

At the heart of an organization are the operations that create and deliver the products. These operations range from procurement, transportation, warehousing, order processing, materials handling and outbound logistics. Logistics manages the flow of inputs from suppliers, the movement of materials through different operations within the organization, and the flow of materials out to customers (Wisner, 2003). The management of these operations forms the core of supply chain management (Simon, 2006). An effective supply chain management requires an end-to-end supply chain focus that supports integration of business processes such as purchasing, transportation, manufacturing, selling, and outbound logistics integration throughout the chain for the purpose of providing optimum value to the ultimate customer/consumer (Cohen and Roussel, 2005; Wisner, 2003). The integration of these activities is essential in preventing sub-optimization in the supply chain, lead to better customer service which can increase sales revenue and return on investment (ROI).

Despite the understanding that not all firms are part of a chain of organizations bringing products and services to customers (and most firms operate in a number of supply chains), certainly not all supply chains are managed in any truly coordinated fashion. Firms continue to operate independently in many industries. It is often easy for managers to be focused solely on their immediate customers and their internal daily operations. After all, with customers complaining employees to train, late supplier deliveries, creditors to pay, and equipment to repair, who has time for relationship building and other supply chain management efforts? (Wisner, Tan & Leong, 2008)

**CONTROVERSY**

The scope of supply chain management has widened over time from intra-organizational focus to more inter-organizational issues. According to Tan (2001) there does not seem to be much consistency in the user of it or its exact meaning. Tan also argues that although there are some shared ideas about what supply chain management is about, there is no universally accepted definition. Absence of universally acceptable meaning of SCM may negatively influence comparability of SCM studies.

There are divergent views on the concept of supply chain management. Several studies in the past conducted viewed supply chain management from only one perspective. For instance, procurement experts focused solely on the supply side activities of supply chain management. The findings of such studies tend to lay more emphases on the contribution of the upstream activities such as supplier management, supply base optimization, inbound logistics, procurement, and materials management to a firm's bottom-line. Conversely, studies conducted by marketing experts tend to focus more on the demand side of the supply chain, which is an emphasis on the activities taking place between the organization and its markets (end users).this is the downstream view of supply chain management. Viewing supply chain management only from one angle presents a lopsided stance on its impact on organizational performance which could results in recommendations that may cause sub-optimization.

Most performance measures used by firms today continue to be the traditional cost-based and financial statistics reported to shareholders in the form of annual report, balance sheet, and income statement data. This information is relied upon by potential investors and shareholders to make stock transaction decisions, and forms the basis for many firms' performance bonuses. Unfortunately, financial statements and other cost-based information don't necessarily reflect the underlying performance of the productive systems of an organization. The reason is simple; these cost and profit information can be manipulated or hidden.

Previous studies conducted in this area seem to focus on the relations between supply chain management and other variables such as timely delivery, inventory visibility, customer service and supply relationship. This creates a variable inclusion gap considering that this particular study looks at supply chain management and its financial impact. The findings of these previous studies may not have much significance to the findings of this study. This is due to the differences in the dependent variables captured in the scope of the studies. Furthermore, past research in this area seem to be carried out within different time scopes. Business practices, strategies and concepts are constantly evolving to suit prevailing environmental dynamics. Several past studies were conducted at least 15 years ago. The fact those 15 years in the life of a business is too long a time to stick with the same strategy makes it impracticable to rely on the findings of these previous studies as they fail to recognize the changes that have occurred from the period of the research to the present moment.

There is hardly any research, to the best of the knowledge of the researcher that examined the impact of supply chain management on financial performance of soft drink manufacturers in Enugu

State, Nigeria looking at the supply chain as a whole and not clinging to only one perspective of it. It is against this backdrop that the researcher decides to examine the relationship between supply chain management and financial performance of soft drink manufacturing firms in Enugu.

**OBJECTIVES OF THE STUDY**

The main objective of the study is to investigate the impact of supply chain management on the financial performance of listed soft drink manufacturing firms in Enugu specifically, other objectives include:

i. To examine the impact of strategic supplier relationships on financial performance of list soft drink manufacturing firms in Enugu.
ii. To determine the effect the electronic data interchange on the financial performance of listed soft drink manufacturing firms in Enugu.
iii. To identify the influence of inventory management on the financial performance of listed manufacturing firms in Enugu.
iv. To find out the impact of outbound logistics integration on the financial performance of listed manufacturing firms in Enugu.

**STATEMENT OF HYPOTHESIS**

The following hypotheses have been formulated in null form:

i. Strategic supplier relationships have no significant impact on the financial performance of soft drink manufacturing firms in Enugu.
ii. Electronic data interchange has no significant impact on the financial performance of soft drink manufacturing firms in Enugu.
iii. Inventory management has no significant impact on the financial performance of listed soft drink manufacturing firms in Enugu.
iv. Outbound logistics integration has no significant impact on the financial performance of listed soft drink manufacturing firms in Enugu.

**SCOPE OF THE STUDY**

The study links supply chain management to financial performance of listed soft drink manufacturing firms in Enugu. It covers a period of 5 years (2012-2016). The independent variable of the study is supply chain management which consists of strategic supplier relationship, electronic data interchange, inventory management, and outbound logistics integration, while the dependent variable is financial performance proxy with return on investment (ROI).

**SIGNIFICANT OF THE STUDY**

This study will assist managers of companies in ascertaining the appropriate supply chain management practices for their firms. It will also assist supply chain, logistics, operations, and distribution managers of manufacturing firms to understand the extent to which these practices can affect their financial performance particularly in terms of return on investment. It will also assist investors and other stakeholders in identifying the financial performance of firms so as to avoid loss on their investments. Finally, the research will be of great significance to academic researchers in clearing the controversies and closing the existing gap of previous studies conducted in the same area and it will form a solid basis for conducting further research on the subject matter.

**2.1 LITERATURE REVIEW**

Many organizations have realized the importance of creating an integrated relationship with the suppliers and customers. This simultaneous integration of customer requirements, integral processes and upstream supplier performance is referred to as supply chain management (Tan, Kannan, Handfield & Ghoash, 1999). Adoption of good SCM practices can thus provide a good avenue to meet organizational goals. The Council of Supply Chain Management Professional defines supply chain management as encompassing the planning and management of all activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies (Grant, Lambert, Stock & Ellram, 2006). The term 'Supply Chain Management' (SCM) was introduced by consultants in the early 1980s (Lambert & Cooper, 2000). It has its origins in the logistics literature (Bowersox, Romano & Giannakis, 1999) and logistics has continued to have a significant impact on the concept. The scope of SCM has widened over time from intra-organizational focus to more inter-organizational issues (Dubois, Hulthen & Pedersen, 2004). Supply chain can be defined generally as where three or more organization from a source to a customer (Mentzer, Min & Zacharia, 2000). In this context of study, SCM involves managing complex flow of information, materials and money across multiple areas both within and among organizations. The aim is to achieve goals related to total system performance. With the current business environment, organizations cannot battle entirely as individuals firms. They must rely on the other organizations in their supply chains to successfully compete in the global market.

**STRATEGIC SUPPLY RELATIONSHIPS/PARTNERSHIPS**

Suppliers participating early in the product-design process can offer more cost effective design choices, help select the best components and technologies, and help in design assessment (Tan, Lyman & Wisner, 2002). This reduces the chances to defective items and the risk of obsolesce because the supplier is involved in the design process (Brownell & Reynolds, 2002). The supplier benefits from a higher share of the purchaser's total purchase requirements (Loughrin, 2008). Strategic supplier partnership is defined as the long-term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits (Stuart, 1997; Balsmeier & Voisin, 1996; Monczka, Petersen, Handfield, Ragatz, 1998; and Sheridan, 1998, mutual planning and problem solving efforts (Gunasekaran, Patel & Tirtiroglu, 2001 as cited in Li, Ragu-Nathan, & Rao, 2004). Such strategies partnerships are entered into to promote shared benefits among the parties and ongoing participation in one or more key strategic areas such as technology, products, and markets (Yoshino & Rangan, 1995).

**ELECTRONIC DATA INTERCHANGE (EDI) AND FINANCIAL PERFORMANCE**

EDI is possibly the most promising application of information technology witnessed in recent years (Aina-David, Ajani & Sanusi, 2017). EDI comprises three basic components: the application software, translation software and communication network. EDI is important since it facilitates frequent and automatic transfer of information required for high degrees of integration and coordination within the supply chain. EDI has been defined as the computer-to-computer exchange of structured data for automatic processing. EDI is used by business (Rushton, Croucher & Baker, 2010). Information management contributes to a firm's return on investment by increased sales revenue through better customer service (faster order processing, speed of transactions, etc.), and reduced cost and error rates in the system.

**INVENTORY MANAGEMENT AND FINANCIAL PERFORMANCE**

An important supply chain management activity is inventory management. Inventory refers to the value or quantity of raw materials, supplies, work in progress (WIP) and finished stock that are kept or stored for use as need arises (Lyons & Gillingham, 1981). According to Kotler (2004), inventory management is the technique of managing, controlling and developing the inventory levels at different stages i.e. raw materials, semi-finished goods and finished goods so that there is regular supply of resources at minimum costs. The financing implication of inventory management is the amount of capital required to fund the inventory. Coyle, Bardi & Langley (2003) added that the focus on inventory minimization is a direct response to the competing needs for capital and the difficulty some firms have in raising additional capital. Drury (2004) asserts that inventory costs include holding costs, ordering costs and shortage costs. Holding costs relate to costs of having physical items in stock. These include insurance, obsolescence opportunity costs associated with having funds which could be elsewhere but are tied up in inventory. A firm must install some better inventory control techniques to improve their financial condition (Shardeo, 2015). Capkun, Hameri and Weiss (2009) found a positive correlation between inventory management and financial performance; even more significantly, they show that effective inventory management also lead to financial performance, which they measured by considering gross and operating profits.

**OUTBOUND LOGISTICS INTEGRATION AND FINANCIAL PERFORMANCE**

Logistics manages the flow of inputs from suppliers, the movement of materials through different operations within the organization, and the flow of materials out to customers (Wisner, 2003). Distribution and logistics can have a variety of different impacts on an organization's financial performance. This particularly applies when the whole of a business is covered (Rushton, Croucher & Baker, 2010). There are many different ways in which logistics can have both a positive and negative on the ROI. Cost can be minimized through efficiency logistics operations including reductions in transport, storage and inventory holding costs, as well as maximizing labour efficiency (Rushton, Croucher & Baker, 2010). A supply chain management strategy requires an end-to-end supply chain focus that supports integration throughout the process (Roussel, 2005; Wisner, 2003). Wisner (2003) hypothesized a positive link between logistics strategy and organizational performance. The logistics construct reflects the organization's performance as it relates to its ability to deliver goods and services in the precise quantities and at the precise times required by customers. Bowersox, Closs & Keller (2000) incorporate performance metrics such as customer satisfaction, delivery speed, delivery dependability, and delivery flexibility (Green & Inman, 2005, 2006). Financial performance reflects an organization's profitability and return on investment as compared to its competition (Green & Inman, 2005).

**THEORETICAL FRAMEWORK**

**THE VALUE CHAIN THEORY**

The study is theoretically anchored on Porter's value chain theory. The terms value chain was used by Prof. Michael Porter in his book "Competitive Advantage: Creating and Sustaining Superior Performance" (1985). The value chain describes the primary and secondary activities that an organization performs and links them to the organizations' competitive advantage. The primary activities are inbound logistics, operations, outbound logistics, marketing and sales, and service activities (Lysons & Farrington, 2006). The support activities are firm infrastructure including information systems, procurement, human resource management, and technology. Porter's Value Chain Model explains that all the activities of the firm are directed towards creating a profit margin. The concept of SCM builds on the theories of the firm, especially transaction cost economics, Porter's value chain and the network approach which has become established as a useful business paradigm. It has been argued that the SCM area lacks sufficient theoretical underpinnings resulting in simplified conceptualization of supply chains and their contexts, and furthermore, that theory may be helpful to uncover some of the complexity characterizing supply chains.

This theory is capable of identifying and explaining the supply chain activities that can drive firm's financial performance by creating value to products and services as they move from suppliers to end-users.

**3.1 METHODOLOGY**

The research adopts both quantitative and qualitative approached which are characteristics of the pragmatism research philosophy. The population of the study comprises of only managers, supervisors, analysts, and officers in supply chain management related units such as procurement, stores, distribution, marketing, production, logistics and supply chain management of selected soft drink bottling companies in Enugu State, South East Nigeria – Nigeria Bottling Company and Seven-Up Bottling Company totaling 40. A total population sampling technique was employed considering the size of the population. Primary and secondary data were used for the purpose of the study and they were extracted with the use of close-ended 4-point rating questionnaire, and documentary source respectively. The data collected were analyzed using linear regression with the aid of Statistical Package for Social Sciences (SPSS), the choice of the technique is because regression is an appropriate technique used in testing impacts.

In order to examine the influence of supply chain management on the financial performance of listed soft drink manufacturing companies in Enugu, the following multiple liner regression model has been specified:

$ROI_{it} = a + \beta_1 SSS_{it} + \beta_2 EDI_{it} + \beta_3 IM_{it} + \beta_4 OLI_{it}$

ROI = Return on Investment

$a$ = Constant

$\beta^1 - \beta^6$ = Coefficient of the Independent Variables

SSR = Strategic Supplier Relationship

EDI = Electronic Data Interchange

IM = Inventory Management

OLI = Outbound Logistics Integration

i = Time Period

t = Firm

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### 4.1 RESULTS AND DISCUSSION

This section of the study will present the descriptive statistics and regression results of the study and the discussion of findings follows.

**Table 1: Descriptive Statistics**

| | Mean | Std. Deviation | N |
|---|---|---|---|
| ROI | 1.0750 | .26675 | 40 |
| SSR | 3.34500 | .63851 | 40 |
| EDI | 3.3000 | .64847 | 40 |
| OLI | 3.3750 | .54006 | 40 |
| IM | 3.5500 | .55238 | 40 |

**Source: SPSS Output**

The descriptive statistics value shows the mean of 1.0750 for supply chain management practices while strategic supplier relationship value stood at 3.45 and EDI has a mean of 3.30 while outbound logistics integration has a mean value of 3.30. Inventory management has a mean of 3.55. SSR, EDI, OLI and IM caused 46.7% variation in SCM practice as it relates to financial performance in soft drink manufacturing companies in Enugu for the period under study. The remaining 53.3% is caused by the variables outside the model.

**Table 2: Coefficients $a$**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | T | Sig. |
| **1** | (Constant) | 2.054 | .287 | | 7.166 | .000 |
| | SSR | -.250 | .066 | -.598 | -3.775 | .001 |
| | EDI | -.047 | .060 | -.114 | -.785 | .438 |
| | OLI | -.069 | .066 | -.139 | -1.045 | .303 |
| | IM | .076 | .064 | .157 | 1.192 | .241 |

**a.** Dependent Variable: Financial Performance

Source: SPSS Output, 2017

The table 2 above shows the model, unstandardized coefficients, standardized coefficients and significant levels. The result shows that the variables are accepted as supply chain management practices that enhance financial performance in soft drink manufacturing companies in E.

**Table 3: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| **1** | .690$a$ | .476 | .416 | .20391 |

Source: SPSS Output, 2017

From the Table 3 above, the coefficient of determination was found to be .476 indicating that SCM account for 47.6% of the variability in performance. This reveals that the model is fitted, having a coefficient of correlation of 0.690. The figure indicates that there is a significant relationship between supply chain management practices and financial performance of soft drink manufacturing companies in Enugu, South East Nigeria R square is given as 0.476. This value indicates that there exists 47.6% variation in the role of supply chain management on financial performance of soft drink manufacturing companies.

**Table 4: ANOVA[b]**

| **Model** | | **Sum of squares** | **Df** | **Mean Square** | **F** | **Sig.** |
|---|---|---|---|---|---|---|
| **1** | Regression | 1.320 | 4 | .330 | 7.935 | .000[a] |
| | Residual | 1.455 | 35 | .042 | | |
| | Total | 2.775 | 39 | | | |

Source: SPSS Output, 2017

a. Predictors: (Constant), strategic supplier relationship, electronic data interchange, inventory management and outbound logistics integration

From the Table above, the F-statistics was 7.935 with a P-value of 0.000 which is less than .05. This indicates that the model was statistically significant at the 5% level of significance implying that SCM have a statistically significant relationship with financial performance.

This indicates that the independent variables are significant predictors of the dependent variables (financial performance of soft drink manufacturing companies in Enugu). The Table also indicate that the strategic supplier relationship, electronic data interchange, inventory management and outbound logistics integration which are important aspects of supply chain management enhance the financial performance of soft drink manufacturing firms in Enugu with the result (t-3.755, -.785, -1.045, and 1.192) being significant at 5% level of significance.

From the analysis of data collected from the soft drink manufacturing firms in Enugu, it was observed that the respondents' opinions clearly indicate that supply chain management has a relationship with financial performance. Majority of the respondents agreed that the firms' financial performance is influenced by strategic supplier relationships, inventory management, outbound logistics integration and electronic data interchange. It was found that a number of SCM best practices had been adopted and implemented to a great extent in the companies. Regarding the relationship between SCM practices and firm performance, four variables, namely strategic supplier relationship, electronic data interchange, outbound logistics integration and inventory management were found to have strong statistically significant relationships with financial performance. This supports the findings of Mwilu (2013) that supply chain management practices like sharing of information and supplier relationship have significant relationship with a firm's performance. Findings also show that electronic data interchange has a positive relationship with financial performance of soft drink manufacturing companies in Enugu. Such findings validates the position of Aina-David, Ajani and Sanusi (2017) which found that effective implementation of EDI has great potential for improving efficiencies within the manufacturing industry's supply chain. This comes as a result of savings from cost reduction in customer response.

Findings from the study show that outbound logistics integration which is a key supply chain management activity affects return on investment of soft drink manufacturing firms in Enugu. This corroborates with the findings of Wagner, Grosse-Ruyken and Erhun (2012) that the financial impact of supply chain management is evident from the reduction in logistics cost as a result of integration of the inbound and outbound activities. It can also be inferred from the study that real-time information sharing through the help of electronic data interchange can contribute to enhancing the financial performance of soft drink manufacturing companies in Enugu. This is consistent with the findings of Olowu and Ojo (2008) which indicated that better data exchanges in the supply chain assist the member firms to reduce unnecessary inventory, match demand and supply, and increase responsiveness to customer needs. These will increase sales revenue and improve the bottom-line of the firms.

## 5.1 CONCLUSION AND RECOMMENDATIONS

The study has provided both empirical as well as statistical evidence on the utility of four independent variables that constitute supply chain management; strategic supplier relationship, electronic data interchange, inventory management, and outbound logistics integration in explaining and predicting financial performance in soft drink manufacturing companies in Enugu. In line with the findings of the study, the researcher concludes that all the supply chain management variables used in the study (strategic supplier relationship, electronic data interchange, inventory management, and outbound logistics integration) play an important role in enhancing financial performance in the sampled organizations.

Based on the findings and conclusions of the study, it is recommended that the companies should pay more attention to these supply chain management practices as they have a significant impact on their financial performance. The companies should show more commitment towards long-term strategic and collaborative relationships with their key components suppliers as this would enhance their financial performance in the long run. Similarly the management of listed soft drink manufacturing companies in Enugu should invest more on information and communication technology platforms that would boost data exchange with supply chain members as this has shown to improve their efficiency and financial performance. The companies should coordinate all outbound logistics related activities for effective integration. This require close cross-functional and inter-organizational linkages and cooperation so as to reduce sub-optimality by reducing costs for the entire system and improving customer service delivery, all having a bearing on return on investment. The management of soft drink manufacturing companies in Enugu should work together to reduce the entire supply chain inventory holding. Keeping too much idle inventory constitutes wastes of funds to the firms in the supply chain and reduce overall financial performance including profitability. Stock levels should be minimized as much as possible through better sales forecasting, better transmission of quality real-time information across the supply chain to reduce uncertainty which is mostly responsible for firms keeping large volume of materials. The researcher also recommends that academic researchers should conduct further studies on the subject matter in order to make contribution on the literatures about the subject matter in existence especially in validating the outcomes of the various studies that were conducted.

**REFERENCES**

Aina – David, O. A., Ajani, O. A & Olatunde & Sanusi, O. T. (2017). Investigating the role of risk management on prevention of fraud in Nigerian commercial banks**.** *International Journal of Entrepreneurial Development, Education and Science Research, 4*(1): 113-125.

Balsmeier, P. W., & Voisin, W. (1996). Supply chain management: A time based strategy. *Industrial Management 38*(5), 24–27.

Bogan, C.E. and English, M.J. (1994). *Benchmarking for Best Practices: Winning Through Innovative Adaptation. New York: McGraw-Hill.*

Bowersox, D. J., Closs, D. J., Stank, T. P. & Keller, S. B. (2000). How supply chain competency leads to business success. *Supply Chain Management Review, 4*(4): 70-77.

Brownell, J., & Reynolds, D. (2002). Strengthening the purchaser-supplier partnership. *Cornell Hospitality Report, 2: 4-28.*

Burgress, K. Singh, P. and Koroglu, P. (2006). Supply Chain Management; A Structural Literature Review and Implications for Future Research. *International Journal of Operations and Production Management, 36*(7)703-729.

Burt, D.N, Pet CAVAGE, s. & Pinkerton, R. (2010). *Supply Management.* 8th Edition, Boston: McGraw Hill Irwin.

Capkun, V., Hameri, A. & Weiss, L. A. (2009). On the relationship between inventory and financial performance in manufacturing companies. *International Journal of Operations & Production Management, 29*(8): 789-806. Retrieved from https://doi.org/10.1108/01443570910977698 on 30/06/2017

Chapman, S., Lawrence, P., Helms, M.M., (2000). *Do* small business need supply chain management? *IIE Solutions,* 32(8): 31-34.

Chopra, S. and Meindl, P. (2004). Supply chain management; strategy, planning, and operations. 8th Edition. Boston. McGraw Hill Irwin.

Christopher, M. (1998). *Logistics and supply chain management: Strategies for reducing cost and improving service.* 8th Edition. Boston: McGraw Hill Irwin.

Cigolini, R., Cozzi, M., & Perona, M. (2004). A new framework for supply chain management: conceptual model and empirical test. *International Journal of Operations and Production management,* 24(1):7-14.

Cohen, S. & Roussel, J. (2004). *Supply chain management*. New York: McGraw Hill.

Cox, J.P., Blackstone, J.H. & Spencer, M.S. (1995), APICS dictionary (eds). Falls Church: VA: American Production and Inventory Control Society.

Coyle, J. J., Bardi, E. J. & Langley, C. J. (2003). *The management of business logistics: A supply chain perspective***.** Boston**:** South-Western/Thomson Learning

Croom, S., Romano, P., and Giannakis, M., (2000). Supply chain management*:* and analytical framework for critical literature review. *European Journal of Purchasing & Supply Management:* 67-83.

Drury, C. (2004). Management and cost accounting. Boston: Cengage Learning.

Dubois, A., Hulthen, K., and Pedersen, A (2004): Supply chains and interdependence: A theoretical analysis. *Journal of Purchasing & Supply Management 10*: 3-9.

Ellram, L. & Cooper, M., (1993), Tightening the supply chain. *Production and Inventory Management Journal. 34*(2):63-70.

Grant, D,B., Lambert, D.M., Stock, J.R. & Ellram, L.M. (2008). *Fundamentals of Logistics Management.* European Edition. London: McGraw Hill.

Green Jr, K. W., Inman, R. A. (2006). Does implementation of a JIT-with-customers strategy change an organization's structure?. *Industrial Management & Data Systems,106* (8):1077-1094. doi: https://doi.org/10.1108/02635570610710764

Gwako, Z.O. (2008). Supply chain performance measurement in the aviation industry: A case study of Kenya Airways Limited. Unpublished MBA Project, University of Nairobi.

Hassan, M. (2009). *Business management.* Kaduna: Joyce Publisher.

Hugo, W.M.J, Bardenhorst-Weiss, J.A. & Van Biljon, E.H.B., (2004). *Supply Chain Management-Logistics in perspective.* Upper Saddle River, New Jersey: Pearson/Prentice Hall.

Kotler, P. (2004). Principles of marketing. 10th edition. Upper Saddle River, New Jersey: Pearson/Prentice Hall.

Lambert D.M. and Cooper M.C. (2000): Issues in supply chain management. *Industrial Marketing Management 29*: 65-83.

Li, S., Ragu-Nathan, B., Ragu-Nathan, T.S. & Rao, S. (2004). The impact of supply chain management practices on competitive advantage and organizational performance. *International Journal of Management Science, 34: 107-124.*

Loughrin, M. (2008). Supply chain perspective: Lean thinking and vendor managed inventory programs. *Supply Chain Digest. Retrieved from*

http://www.scdigest.com/Assets/Experts/Lean_Thinking_08-08-21.php?cid=1869 on 30/06/2017.

Lysons, K and Gillingham, M. (2003). Purchasing and supply chain management. London: Prentice Hall.

Lysons, K. & Farrington, B. (2006). *Purchasing and Supply Chain Management.* 7th Edition. London: Prentice Hall FT/Pearson Education.

Mentzer, J. T., Min, S., Zacharia, Z. G. (2000). The nature of interfirm partnering in supply chain management. *Journal of Retailing, 76*(4): 549-568. doi: 10.1016/S0022-4359(00)00040-3

Monczka, R., Handfield, R., & Trent, T. (2002) Purchasing and Supply Chain Management. 2nd Edition. Australia: South-Western Thomson Learning.

Mwilu, J. M. (2013). Supply chain management practices and performance among public research institutions in Kenya. A master's degree research project submitted to the University of Nairobi

Noble, D. (1997). Purchasing and supplier management as a future competitive edge. *Logistics Focus 5*(5), 23–27

Onyango (2011) Supply chain management practices and performance in cement industry in Kenya. Unpublished MBA Project University of Nairobi.

Orukoh (2007). Supply chain management practices in Numerical Machining Complex Limited. Unpulished MBA Project University of Nairobi.

Rushton, A, Croucher, P., & Baker, P. (2010). *The Handbook of Logistics and Distribution Management.* 4th Edition. London: Kogan Page.

Shardeo, V. (2015). Impact of inventory management on the financial performance of the firm. *IOSR Journal of Business and Management (IOSR-JBM).*

Simon, D. (2006). Relationship maintenance: The heart of supply chain management. *Supply Chain Review*. Retrieved from http://www.cmalearning.com.au/wp-content/uploads/2016/03/Relationship-maintenance-The-heart-of-supply-chain-management-Simon-Dowling-Supply-Chain-Review-March-2006.pdf

Stuart, F.I. (1997). Supply-Chain Strategy: Organizational Influence through Supplier Alliances. *British Academy of Management, 8(3):223-36.*

Tan, K. C. (2001). A framework of supply chain management literature. *European Journal of Purchasing & Supply Management, 7*: 39-48.

Tan, K.C, Lyman, S.B. & Wisner, J.D. (2002). Supply chain management: A strategic perspective. *International Journal of Operations and Production Management,* 22(6):614-31.

Tan, K.C. Kannan, V.R., Handfield, R.B. and Ghosh, S. (1999). Supply Chain Management. Supplier Performance. *International Journal of Purchasing and Materials management, 34(2): 2-9.*

Tan, K.C., Kannan, V.R.. & Handfield, R.B. (1998). Supply chain management: supplier performance and firm performance. *International Journal of Purchasing and Materials Management, 34*(3):2-9.

The Supply Chain Council (1997).Retrieved from http//ww.supply-chain.com/info/faq.html

Tracey, M., Lim, J.S. and Vonderembse, M. A. (2005). The impact of supply chain management capabilities on business performance. *Supply Chain Managers: An International Journal. 10(3):179-191.*

Wagner, S.M., Grosse-Ruyken, P.T. & Erhun, F. (2012). The link between supply chain fit and financial performance of the firm: *Journal of Operations Management 30: 340-353.*

Weele, Van, A.J. (2010). *Purchasing and supply chain management: Analysis, strategy, planning and practice.* 5th Edition. Australia: South-Western Cengage Learning.

Wisner, J. D. (2003). A structural equation model of supply chain management strategiesand firm performance. *Journal of Business Logistics, 24*(1): 1–26. doi**:** 10.1002/J.21581592.2003.TB00030.X

Wisner, J., Tan, K. & Leong, G. (2008). *Principles of Supply Chain Management*. Boston:
Cengage Learning.

Yoshino, M. Y. & Rangan, S. (1995*). Strategic alliances: An entrepreneurial approach to globalization*. Boston: Harvard Business School Press.