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STOCK LEVEL AND SUPPLY CHAIN PERFORMANCE OF CEMENT COMPANIES IN RIVERS STATE

Jekey, Lekue *and* Bazia, John .N.S
Department of Marketing,
Faculty of Management Science,
University of Port Harcourt
E-Mail for correspondence: johnbazia66@gmail.com

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Abstract:

This study examined the relationship between stock level and measures of supply chain performance of Cement Companies in Rivers State. The study adopted an explanatory research design. The population of this study comprised four (4) cement companies in Rivers State. The study took a census form hence no need of sampling. Six (6) respondents were drawn from each of the cement companies making a total of twenty four (24) respondents to whom copies of a structured questionnaire was administered. The Spearman Ranking Correlation was the statistical tool used for data analyses, with the help of Statistical Package for Social Sciences. The study found that, there is a weak positive relationship between stock level and on-time delivery and strong positive relationship with customer's satisfaction of cement companies in River State. Specifically, the results indicated that stock level inventory is a correlate of customer satisfaction and on-time delivery. It was thus, recommended that, Cement companies should maintain a balanced stock level to enhance efficient on-time delivery and customer satisfaction and ultimately effective supply chain performance. Cement companies should conduct regular stock taking audits of inventory levels to ensure they identify and rectify any discrepancies, minimize stock-outs or excess inventory, sufficient stock is available and enhance on-time delivery, customer satisfaction.

Keywords: stock level, supply chain performance, customer satisfaction. On-time delivery

INTRODUCTION

Generally, manufacturing firms need more inventory control technique to surpass customer's expectation and speculation of demand purposes. This will make them competitive and maintain costs effectiveness. All manufacturing firms prospers via utilization of sound inventory control techniques, such as economic order quantities (EOQ) Just in Time and vendor management. It is argued that inventory has to be leveled down in order to maximize storage costs and to boost up inventory to the level of customer's demand in the target market (Medard, 2017; Atnafu & Balda, 2018). The planning, implementing and control of inventories at organizational level and its related activities are necessary and essential for the supply chain performance or any manufacturing firms in the world today. According to Nsikan, Etim and Ime (2015) many organizations have employed the basic inventory control techniques or methods, to enable them perform well and monitor their inventory costs.

According to Miller (2010) inventory control involves all activities put in place to make sure that implied customers are satisfy with either services or products desired. It organizes the acquiring, production as well as dissemination functions to catch up with marketing desires and manufacturers wishes of making the products available to the clients. Inventory control is largely involved with stipulating the size in addition to assignment of stocked products. Inventory control is obligatory at diverse locations within a facility or within manifold positions of a supply system to defend the regular as well as planned course of manufacturing against the random commotion of going out of materials. The scope of inventory control likewise involves managing the refill lead time, refill of goods, returns, substandard goods and demand forecasting, inventory carrying costs, forthcoming inventory price prediction, quality management, demand forecasting, inventory visibility, inventory valuation, asset management and available physical space. With a balanced of these requirements, it is possible to reach an optimal inventory level, which is an on-going process as the business needs a shift and react to the wider environment (Ogbo et al, 2014). The different aspect of inventory controlling techniques practiced by most organizations for efficient and effective supply chain performance include, economic order quality

model (EOQ), just in time (JIT), vendor manage inventory (VMI), collaborative planning (CP), material requirement planning, agile system, automatic replenishment, forecasting and replenishment etc.
Studies examining the relationship between inventory control techniques and performance was mainly in the area of finance, procurement and economic performance and not supply chain performance. Majority of these studies focused on external inventory management practices. For instance, Onchoke and Wanyoike (2016) studied the influence of inventory control practices on procurement performance of agrochemicals distributors in Nakuru Central Sub-County, Kenya. Auma, Muturi and Atambo (2017) studied the effect of inventory control methods on the performance of procurement function in sugar manufacturing firms in Western Kenya. Mwachiru and Datche (2015) studied the effects of inventory management system on organizational performance. Mwangangi and Senelwa (2018) studied the influence of inventory control techniques on service delivery in parastatals in Kenya. Mwangi and Nyambura (2015) examined the role inventory management plays in the performance of companies engaged in food processing.

Thus, this study examine the relationship between inventory control techniques and supply chain performance using cement manufacturing firms in Rivers State, Nigeria. According to Nsikan *et al.* (2015) and (Zivkov, (2015) cement firms in Rivers State, suffers the problem of poor inventory control techniques, inaccurate forecasts, on the ground that there is no proper real time inventory information on what the customer desire. As a result of this, customers on daily bases experienced late deliveries, inappropriate and inadequate delivery of products. Cement firms in Rivers State are also faced with problems of investments in less critical stock amounting to unnecessary or unwanted costs and ill responsiveness to customer's order giving ways to abdicating performance (Njoku & Kalu, 2015). This has resulted to customer's dissatisfaction, hike in price and break in cement supply chain in Rivers State and it environ. Previous studies had evident that inventory control was one of the least valued management area in major firms, (Mogare, Oloko, & Okibo, 2013). The cement industry is still backward in its performance in the supply chain performance being associated with low inventory turnover that ends up at lower operational efficiency. Neely (2014) opined that some inventory control techniques, such as Vendor Managed Inventory, Enterprise Resource Planning (ERP) Software, Inventory Forecasting and Just in Time are not properly utilize. Neely further, remarked that most organization have not completely adopted them into their business environment. Is hard for manufacturing firms to operate without stock and based on this, it becomes necessary, the adoption of inventory control techniques.

Irrespective of the proliferation of interest on inventory control in the practical and academic fields, the performance of supply chain in cement firms in Rivers State have not been encouraging. This study therefore, empiricallly examine inventory control techniques in relation to supply chain performance using cement firms in Rivers State. Thus, the study postulated that, there is no relationship between stock levels, customer's satisfaction and on-time-delivery using cement companies in Rivers State. Therefore, this study examined the relationship between stock level and supply chain performance of cement distributing companies in Rivers State, with customer's satisfaction and on-time-delivery as the measures of the study.

LITERATURE REVIEW

Stock Level Sub-system

Every business enterprise needs to have raw materials referred to as stock or inventory readily available for production purposes, since the absent of sufficient quantity of raw materials needed may cause loss of man hour stoppage of production, low sales, low profit and loss of customer loyalty, which may lead to low customer patronage and ultimately liquidation of the company. Stock level inventory control techniques: can be defined as an equilibrium stock quantity as decided by an organization's materials management's team to avoid under/overstocking of goods and misplaced capital fund/priority. Hence, the need for collaboration between the various internal supplies chains members, sharing information, forecasting, planning and replenishment of raw materials to support production. The reason for holding stock is to ensure that an equilibrium stock is maintained to avoid overstocking and understocking of materials, thus every management has to decide about what quantity would be maximum level, average stock level, minimum level, re-order level, danger level and average level of materials to be kept in store based on their capacity - Smriti Chand, (2022).

Number of factors are consider in the determination of stock levels. Some of them are lead time for deliveries, the rate of consumption, requirements of funds, keeping qualities, deterioration, evaporation, storage cost, availability of space, price fluctuations, insurance cost, obsolescence price, seasonal consideration of price and availability, EOQ (Economic Order Quantity), and government and other statuary restriction. Any decision involving procurement, storage and usage of item will have to be based on an overall appreciation of the influence of the critical ones among them. Material control necessitates the maintenance of inventory of every item of material as low as possible ensuring at the same time, its availability as and when required for production. These twin objectives are achieved only by a proper planning of inventory levels. If the level of inventory is not properly planned, the results may either be overstocking or understocking. If a large stock of any item is carried it will unnecessarily lock up a huge amount of working capital and consequently there will be a loss of interest. Furthermore, a higher quantity than what is legitimate would also result in deterioration. Besides there is also the risk of obsolescence if the end product for which the inventory is required goes out of fashion. Again, a large stock necessarily involves an increased cost of carrying such as insurance, rent handling

charges. Under stocking which is other extreme, is equally undesirable as it results in stock outs and the consequent production holds ups. Stoppage of production in turn, cause idle facility cost. An efficient inventory management, therefore, requires the company to maintain inventories at an optimum level where inventory costs are minimum and at the same time there is no stock out which may result in loss of sale or stoppage of production. This necessitates the determination of the minimum and maximum level of inventories.

Proper inventory stock level in the work organization improves the competitiveness of the workplace this in sync with the works of Atnafu, Balda and Liu (2018) who studied the impact of inventory management practice on firms competitiveness and organizational performance in the context of SMEs in Ethiopia. The study employed structural equation modeling and the findings of the study are that higher levels of inventory management practices improve organizational competitiveness and competitive advantage. Again, inventory management practices also significantly improve organizational performance.

Supply Chain Performance

Business performance is the successes or failures recorded by organizations in the light of known quantitative and qualitative factors. Supply chain performance is an aspect of business performance that qualitatively and quantitatively measures the successful flow of goods and services among supply chain collaborating firms including the end customer. It measures the effectiveness and efficiency of the supply chain from pre-production stage to the end user (Sillanpaa, 2011). Thus, supply chain performance is largely driven by facilities, inventory, transportation, information, sourcing and pricing. Importantly, there are several factors which affect supply chain performance. These factors are supply chain structure, inventory control policy, information sharing, customer demand, forecasting method, lead time and review period length (George & Pillai). The optimum selection of parameters of these variables, enhance the supply chain performance.

Customer Satisfaction

The concept of customer satisfaction is about the relationship between the customers, products/services and the providers of the market offering (s). A satisfied customer gets significant added value through goods and services purchased with their resources (Cengzi, 2010). The customers are considered profitable assets to the firm because no business can exist without them. These assets according to the New York Times, May 22nd 2010, are difficult to put a precise value on. Concurring, Kabu and Soniya, (2017) submit that fulfilled customers are scarce resources and they often rebound, purchase more and network to reach other prospects by sharing positive experiences (Hague & Hague, 2016). Customer satisfaction researchers insist that the goal of the marketing concept is to satisfy profitable customers by determining and fulfilling their needs, wants, preferences, tastes, etc. (Raymond & Clifford 1985). Gundersen, Heide and Olsson, (1996) describe customer satisfaction as a post-consumption evaluative judgment concerning a specific product or service. Oliver (1997) considers customer satisfaction as the result of an evaluative process that contrasts repurchase expectations with perceptions of performance during and after the consumption experience.

On-time Delivery

On-Time Delivery is the metric used to measure supply chain efficiency. This KPI shows whether or not an organization is meeting its goals in regards to promised delivery times, and is critical for both measuring carrier performance and maintaining customer satisfaction. Delivery performance is the extent to which products and services supplied by an organization meet the customer expectation. It provides an indication of the potentiality of the supply chain in providing products and services to the customer. This metric is most important in supply chain management as it integrates (involves) the measurement of performance right from supplier end to the customer end.

Theoretical Framework

The theory of Constraints (TOC) was introduced by Goldratt, (1984) in his book titled "The Goal", it is a management philosophy that aids the investigation of core conventional assumptions, industrial rules, policies, and processes (Stein, 1997). Dr. Eliyahu Goldratt conceived the Theory of Constraints (TOC), and introduced it to a wide audience through his bestselling 1984 novel, "The Goal". Since then, TOC has continued to evolve and develop, and today it is a significant factor within the world of management best practices. Akinlabi, (2017) opined that a constraint is any hurdle that prevents a system from achieving its goals and objectives. Goldratt introduced two types of constraints; internal and external constraints. An internal constraint is a physical or policy hurdle which occurs when a system is unable to maximize its internal resources to produce and deliver adequate satisfaction to its target market. While an external constraint occurs when a system generates and provides more than its market expectations.

The theory of Constraints (TOC) proposes that a firm is a system, and every system has at least one constraint restraining it from accomplishing its set goals and objectives. And to enhance firms' performance, these constraints must be recognized, understood and remedial measures taken (a prescription) (Nwokah, 2022). According to Lakshmii & Ramakrishna, (2012), the theory of Constraints (TOC) offers a global system approach that promotes the achievement of organizational goals and objectives because identifying the constraints helps the firm to concentrate its resources on profitable goals. Goldratt indicate that there are three ways organizations can achieve its goals and objectives, they

include: throughput (T), inventory (I) and operating expenses (OE). One of the appealing characteristics of the Theory of Constraints is that it inherently prioritizes improvement activities. The top priority is always the current constraint. In environments where there is an urgent need to improve, TOC offers a highly focused methodology for creating rapid improvement. Consequent upon the above, the relevance of the theory of constraint to this study is the belief that inventory management and supply chain performance of cement firms in River State are weighed down with some internal and external constraints and bottlenecks, that needs to be identified and solved.

Empirical Review

Mbugi and Lutego (2022) investigated the effect of inventory control management systems on organizational performance in the context of Tanzania manufacturing industry. Specifically, the study was domesticated in the food and beverages industry in the city of Mwanza, Tanzania. The study adopted qualitative research paradigm with content analysis. The research employed Nuevo qualitative analysis software and the findings are that the organizations employed different types of inventory management systems ranging from economic order quantity, perpetual inventory control systems, barcode inventory control system etc. These system minimizes inventory total cost, gives information on the state of the firm's inventory on an ongoing basis respectively and brings about organizational performance in terms of effectiveness, efficiency and profitability.

Furthermore, the above findings are corroborated with the works of Waithaka (2015), the scholar investigated the impact of inventory management system on supply chain performance in the context of public hospitals in Nairobi, Kenya. The study employed chi square and linear regression analysis for the test of significance. The finding of study is that inventory management systems and levels of integration adopted impact positively and significantly on supply chain performance in the context of public hospitals in Nairobi Kenya. Again, the study also discovered significant relationship between inventory management system and supply chain integration and supply chain performance. Thus, inventory management systems and supply chain integration significantly and positively influence supply chain performance. The study also revealed significant and positive correlation between inventory management systems and supply chain performance. The research concluded that inventory management system and the integration of supply chain are laudable in driving supply chain performance.

Sporta (2018) evaluated the effect of inventory control techniques on organizations performance in a context specific of Kenya medical supplies agencies. The study employed mixed research methods and the findings of the study is that inventory control techniques positively and significantly improves organizational performance of medical supplies agencies in Kenya. This finding is corroborated with the study findings of Ogbo, Onekanma and Wilfred (2014) the scholars examined the relationship between effective system of inventory management and organizational performance in the context of seven up bottling company in Enugu. The study employed the non-parametric statistic of chi square analytical tool and the findings is that inventory control management flexibility significantly improves organizational performance.

Achevi, Juma and Otinga (2021) studied the influence of inventory control techniques on performance of procurement function in the context of referral hospital in Vitiga country in Kenya. The study employed multiple regression analysis and the findings of the study is that inventory control techniques significantly improves the performance of procurement functions. The study specifically discovered that inventory control techniques such as just-in-time system, economic order quantity and ABC analysis significantly but relatively influence the performance of procurement functions in the context of referral hospitals in Vitiga country in Kenya.

Mochama and Muturi (2019) evaluated the effect of inventory management practices on supply chain performance in the context of soft drinks manufacturing firms in Western Kenya. The study employed a quantitative research method. Specifically, descriptive statistics and inferential statistics were employed and the findings of the study is that improved production is one of the effect of inventory practices on supply chain performance in the context of soft drinks manufacturing organizations in Western region of Kenya. Again, quality service delivery positively and significantly influence demand projections, improves supply chain performance, bring about inventory and storage reduction, enhancement of profitability and driving overall business performance (Mochama & Muturi, 2019).

Atnafu, Balda and Liu (2018) studied the impact of inventory management practice on firms' competitiveness and organizational performance in the context of SMEs in Ethiopia. The study employed structural equation modeling and the findings of the study are that higher levels of inventory management practices improve organizational competitiveness and competitive advantage. Again, inventory management practices also significantly improve organizational performance. These findings are in line with the empirical works of Mankazana, Silase and Molefe (2018). The scholars investigated the influence of inventory management techniques and supply chain management on organizational performance of manufacturing industries in Johannesburg, South Africa. The study made use of mixed research method and the findings of the study is that inventory management and supply chain have positive and significant impact on the performance of companies in the manufacturing industries in Johannesburg, South Africa.

According to Irene Rotech, Charles and Kagai (2015) investigated Effect of inventory management on business

performances using questionnaires the result indicated that access to credit, Mobilization and training in small enterprises investment was on average satisfactory to the entrepreneurs.

In a study done by Kolias (2011) in order to test inventory-performance link using construction firms listed in Bursa Malaysia, it was found that there is a positive correlation between inventory turnover and capital intensity as a result of the nature of investments. A study by Fullerton et al (2003) provides empirical support that manufacturing firms that implement higher degrees of modern inventory management techniques should outperform competitors; it was found that a positive relationship exists between firm's profitability and the degree to which waste reducing production practices such as reduced set up times, preventive, maintenance programs, and uniform workloads are implemented. These findings indicate that manufacturing enterprises employing modern inventory management techniques are consistently more profitable than their counterparts.

Another study suggesting a positive relationship between inventory management and performance was Eroglu and Hofer (2011), which used the Empirical Leanness Indicator (ELI) as a measurement for inventory management. They argued that inventory leanness is the best inventory management tool. Lean production considers inventory as a form of waste that should be minimized and has become synonymous with good inventory management Their study on USA manufacturing firms covering the period 2003-2008 found that leanness affects profit margins. According to Eroglu and Hofer (2011), firms that are leaner than the industry average generally see positive returns to leanness. They found that the effect of inventory leanness on firm performance is positive and generally non-linear. Their study also implies that the effect of inventory leanness is concave which is in line with inventory mmanagement theory that there is an optimal degree of inventory leanness beyond which the marginal effect of leanness on financial performance becomes negative.

Also in a similar study conducted by Ogbo, Onekanma and Ukpere (2014) to look into the connection between effectual system of stock management and business in the Seven-Up bottling company, Nile Mile Enugu. Eighty-three (83) respondents made up the sample for the research. Having generated four research questions and four hypotheses and examined at 10 percent (%) (That is, 0.10) significant level with descriptive statistics and non-parametric test. The outcome of the investigation confirms that proficiency in stock control is a key strategy for the accomplishment of dependable business objectives.

The study came to a conclusion that through effective inventory management, a firm's profit from uncomplicated storage and withdrawal of stocks enhanced sales efficiency and reduced running cost. Again, cost reduction tactics are put into serious consideration to enhance benefits accruable from a going concern investment opposed to stock control. Business outfits should develop techniques to efficiently and effectively handle their inventories. It is recommended that organizations should ensure the implementations of the inventory keeping technique that most excellent suits their operations.

Stock levels Inventory management is essential for organizations to achieve their operational requirements. Tomašić et al. (2013) suggests that inventory management helps to create a balance between the forces of demand and supply which protects the final consumers from the uncertainties and disturbances that may occur in the supply chain and ultimately ensures customer satisfaction. According to (Shim & Siegel, 2008; Kontuš, 2014), adequate stock levels reduces inventory cost and improves profitability. Companies are keen on managing their inventory stock levels to reduce costs, improve service quality, enhance product availability and ultimately ensure customer satisfaction. Planning and optimizing inventory stock levels in the value chain and individual firms has a positive effect on the company's profitability and long-term sustainability (Vijay, 2010). Proper Stock levels management is relevant in three major areas; customer service, cash flow (working capital management) and competitive advantage (Jones & Riley, 1987; Augustine et al. 2004) as cited in (Victoria & Maria, 2012). Stock levels is therefore indispensable especially due to the dynamic business environment, some items might be overstock and other stock which leaves the customer dissatisfied (Lee & Billington, 1992).

Eckert, (2007) studied "inventory management and its effects on customer satisfaction". The research sought to examine inventory management, and its influence on customer service levels. Findings showed a positive significant relationship between inventory management practices and customer satisfaction due to a reduced number of stock-outs. Thogori and Jane, (2014) investigated the roles of inventory management on customer satisfaction among manufacturing firms in Kenya". They found that long lead time disrupts effective management of inventory which in turn has hurt customer satisfaction. Therefore, they noted that to improve customer satisfaction firms should work towards reducing lead-time. Akinlabi, (2017) studied "inventory management practices and operational performance of selected flour mills companies in Nigeria" adopting a cross-sectional survey and causal research design. A stratified random sampling technique was used to select the sample size and a structured sell self-administered very questionnaire was adapted, to validate lead times for collecting data for the study. Data were analyzed with Pearson Product Moment Correlation and Regression statistics. The study concluded that inventory management practices significantly influenced the operational performance of flour mill companies in Nigeria.

Ahmad and Iqbal, (2013) examined "the impact of market orientation and brand orientation on strengthening brand performance: an insight from the beverage industry of Pakistan". A standardized questionnaire was distributed through emails among distributors, whole sellers, retailers, sales force and employees etc of the beverage industry of Pakistan. A model with hypotheses of the relationships between the constructs was built and a structural equation model test revealed that customer orientation and inter-functional co-ordination has a positive effect on brand orientation, while competitor orientation has a non-significant effect. Moreover, the study concludes that brand orientation has a substantial impact on strengthening brand performance. Owino and Kibera, (2015) studied "the influence of organizational culture and market orientation on performance of microfinance institutions in Kenya". They used a cross-sectional survey design and collected primary data from microfinance institutions that are members of the Association of Microfinance Institutions (AMFI) in Kenya using a structured questionnaire and tested the hypotheses with regression analysis. The study found that organizational culture and market orientation are factors under the control of management, and concluded that the presence of market orientation is critical to performance. Results of the study revealed that managers need to emphasize the creation and adoption of forces-oriented culture to achieve and sustain superior performance.

In the US, Sanghal (2005) studied the effect of excess inventory on long term stock price performance. The study estimated the long-run price effects of excess inventory using 900 excess inventory announcements made by publicly traded firms during 1990-2002. These announcements are clear and unambiguous acknowledgement by affirm that it is suffering from excess inventory. Examples include instances of production curtailment, temporary shutdowns, price mark downs, promotion to liquidate inventory and inventory write-offs to deal with excess inventories. He found evidence suggesting that stock market partially anticipates excess inventory situations and those firms do not recover quickly from negative effects of excess inventory. He further noted that the negative effect of excess inventory is economically and statistically significant. Based on the above discussions, we, therefore, state the following hypotheses:

H_{03}: *There is no significant relationship between stock level and on-time delivery of cement companies in Rivers State.*

H_{04}: *There is no significant relationship between stock level and customer satisfaction of cement companies in Rivers State.*

METHODOLOGY

This study examined the relationship between stock level and supply chain performance of cement companies in rivers state. The study adopted an explanatory research design. The population of this study comprised of four (4) cement companies in Rivers State. The study took a census. Six (6) respondents were drawn from each of the cement companies making a total of twenty four (24) respondents to whom copies of structured questionnaire were administered. The validity of the questionnaire was determined through academic scrutiny, while its internal consistency was ascertained via Cronbach"s Alpha test of reliability, with a threshold of 0.70. Table 1 below presents a summary of the result of test of reliability. The Spearman Ranking Correlation with the aid of Statistical Package for Social Sciences (SPSS) was used to test the postulated hypotheses.

Table 1: Reliability Analysis of Items on all Variables

Variables	No of items	Alpha value
Stock level inventory control	3	0.845
On-Time delivery	3	0.712
Customer Satisfaction	3	0.744

The table 1, above indicates that all the variables have high Cronbach alpha; surpassing the threshold of 0.70. This means that, the instrument was reliable.

RESULTS

Table 2: Correlation Result of Stock Level Inventory Control and On-Time-Delivery

Correlations

			Stock level inventory control	On-Time delivery
Spearman's rho	Stock level inventory control	Correlation Coefficient	1.000	.378

		Sig. (2-tailed)	.	.003
		N	22	22
	On-Time delivery	Correlation Coefficient	.378	1.000
		Sig. (2-tailed)	.003	.
		N	22	22

***Source**: 2024 SPSS Output.*

As shown in Table 2, the table reveals that there is a weak positive correlation between Stock level inventory control and On-Time delivery. This means that there is a weak tendency for firms with Stock level inventory control enhanced On-Time delivery. The correlation coefficient of .378 is considered to be a weak correlation. This means that firms that have Stock level inventory control will slightly manage their delivery.

Table 3: Correlation Result of Stock Level Inventory Control and Customer's Satisfaction

Correlations

			Stock level inventory control	Customer Satisfaction
Spearman's rho	Stock level inventory control	Correlation Coefficient	1.000	.573**
		Sig. (2-tailed)	.	.005
		N	22	22
	Customer Satisfaction	Correlation Coefficient	.573**	1.000
		Sig. (2-tailed)	.005	.
		N	22	22

***Source**: 2024 SPSS Output.*

Table 3 shows that there is a strong positive correlation between stock level inventory control and customer satisfaction. This means that there is a tendency for firms that use stock level inventory control to satisfaction customers. The correlation coefficient of .573 is considered to be a moderate correlation.

SUMMARY OF FINDING

Hypothesis		**Decision**	**Basis for decision**	**Remark**
H_{01}:	There is no significant relationship between stock level and on-time-delivery	The null hypothesis was rejected	Relationship was significant. (rho =.378; *p*=.003).	weak positive relationship
H_{02}:	There is no significant relationship between stock level and customer's satisfaction	The null hypothesis was rejected	Relationship was significant. (rho =.573; *p*=.005).	Moderate positive relationship

DISCUSSION OF FINDINGS

Relationship between Stock level inventory control and on-time delivery

Based on the data and outcome of the current study, Hypothesis 1, which states that there is no significant relationship between stock level and on-time delivery of cement companies in Rivers State, has been examined. Table 2 reveals a weak positive association between stock level and on-time delivery among cement companies in Rivers State. The

correlation coefficient of .378 indicates a weak relationship between the two variables. This finding suggests that companies with higher stock levels are more likely to achieve better on-time delivery performance. The result is consistent with previous research by Owino and Kibera (2015) and Ahmad and Iqbal (2013), who have also studied the impact of stock level on various aspects of business performance. Additionally, research conducted in the US by Sanghal (2005) provides valuable insights into the effects of excess inventory on long-term stock price performance. Sanghal's study highlights the negative consequences of excess inventory and its implications for firms' stock prices. While the current study establishes a significant positive relationship between stock level and on-time delivery, it is essential to recognize that correlation does not imply causation. Although higher stock levels may lead to better on-time delivery, there could be other underlying factors that contribute to this relationship.

Relationship between stock level inventory control and customer satisfaction

Based on the data and outcome of the current study, Hypothesis 2, which posits that there is no significant relationship between stock level and customer satisfaction of cement manufacturing companies in Nigeria, has been examined. Table 3 presents the results of the correlation analysis between stock level and customer satisfaction. The table indicates a moderate positive relationship between stock level and customer satisfaction among cement companies in Rivers State. The correlation coefficient of .573 signifies a moderate degree of relationship between the two variables. This finding suggests that companies with higher stock levels tend to experience higher levels of customer satisfaction. This result is in line with previous research by Ahmad and Iqbal (2013) and Owino and Kibera (2015), who have also studied the impact of stock level on customer satisfaction and overall business performance. These studies emphasize the importance of efficient stock management for meeting customer demand and ultimately enhancing customer satisfaction.

Conclusion

The study investigated the relationship between inventory control techniques and supply chain performance of cement companies in Rivers State. The study found that stock level techniques are all positively related with on-time delivery and customer satisfaction (supply chain performance). These findings have important implications for cement companies in Rivers State. By implementing inventory control techniques these firms can improve their on-time delivery and customer's satisfaction and ultimately their overall business performance.

Recommendations

i. Cement companies should maintain a balanced stock level to enhance efficient on-time delivery and customer satisfaction and ultimately effective supply chain performance.
ii. Cement companies should conduct regular stock taking audits of inventory levels to ensure they identify and rectify any discrepancies, minimize stockouts or excess inventory, sufficient stock is available and enhance on-time delivery, customer satisfaction.

LIMITATIONS OF THE STUDY AND AREAS FOR FURTHER STUDY

The study focused on cement companies in Rivers State. The results of the study may not be generalizable to other industries or regions. The study used self-reported measures of supply chain performance. This means that there is a risk of bias in the results. Despite these limitations, the study provides some valuable insights into the factors that influence supply chain performance using cement companies in Rivers State.

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