

## **The Effects of Inventory Management on Customer Satisfaction; Evidence from the Supermarket Industry of Nigeria**

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### **Abstract**

**Purpose-** *The purpose of this paper is to investigate the linkage between the determinants of inventory Management and customer satisfaction within the context of supermarkets in Nigeria*

**Design/Methodology/Approach-** *The study adopted quantitative approach, using-item, five point likert scaled questionnaire administered to 500 participants with 80 percent usable response rate. Data was analyzed using Cronbach's a internal consistency and Spearman's ranking correlation statistic.*

**Findings-:** *Lean Inventory Management System emerged as the most significant positive impact on customer satisfaction, whereas information technology was found to have a strong positive impact on customer loyalty. Strategic supplier partnership was found to be a weak factor determining customer loyalty*

**Implications-** *Inventory Management within the Super market context will be more successful if based on customer oriented marketing consumers are more likely to be loyal to supermarkets that need their need expectations. Maintaining an efficient inventory management system is therefore central to enhancing supermarkets patronage*

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**Keywords:** *Inventory Management, Lean InventoryManagement, Information Technology Strategic Supplier partnership, customer satisfaction*

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### **I. Introduction**

Supermarkets are involved in intense competition in the retail Industry Spreague and Wacker (2012) noted that the effective function of a productive system requires constant demand and supply of inventory at the input and output stages of the productive process. Inventory

management in recent times has become a relevant and topical issue in the strategically dynamic business environment for growth and sustainability. Inventory management is one of the most critical areas in marketing planning and strategy, since in the constantly changing market economy, it may constitute a significant activity determining the success of a business organization, if it is handled, keeping in mind the evaluation of all aspects linked with customer satisfaction.

Customer satisfaction as a major determinant of business performance is highly relevant to the long term success of an efficient inventory management system. Customer satisfaction is therefore, very significant to marketing concept with strong reasons of strategic linkages between overall quality and customer satisfaction (Truch, 2006).

Recent researches in customer satisfaction has sifted the centre stage that generates the important value to other distant areas that are important when compared with other issues. This can be seen in the works of (Duncan and Elliotte 2004); Duncan and Elliott, 2002; Yasin et al, 2004; Wiele et al, 2002; Yeung et al, 2002; Rust et al, 1995; Greising, 1994; Boulding, et al 193; Cronin and Taglor 1992; and Keavenry, 1995).

In the past, inventory management was not seen as being significant because excess inventory was conceptualized as an indication of being wealthy and therefore over stocking was encouraged. But in recent times companies accepts effective inventory control (Susan and Micheal, 2000) Management currently control inventory and reduce costs yet remaining competitive (Closs, 1989). Inventory has been estimated to take care of about 30% of business investment in capital (Dobler and Burt, 2006). Inventory control greatly increases profitability by minimizing costs related to storage handling of materials (Lyson, 1996). The reasons for keeping inventory according to Buffa and Salin (1987) are that too much stock could lead to tying down of funds, increment in holding cost, deterioration of materials, obsolescence and theft.

Managing assets of various kinds connotes inventory problems, since it is the same principle for cash and fixed assets (Kaimanakos, 2008). The relationship between ordering costs and holding cost is a feature of the transaction approach to inventory management that is seen in the inventory model that has been in place many decades ago (Koumanakos, 2008). Inventory threatens a firm existence so its control and management must be critical to a firm (Sprangue and Wacker, 1996). Much inventory takes up a great space, creates financial burdens and increase damages, spoilage and loss. Managued and Ames, (1989) asserts that the major objective of inventory management is to improve services to the customer. This is executed through guard against stock out as a result of changes in demand in the market. Inventory management therefore, attempts to increase the efficiency in production (Kothari, 1922). Thus, inventory management is important to a firms success in logistics (Laird, 2012). Bowersox et al, (2010) stated that inventory management aims at achieving the needed customer service given the minimum inventory commitment.

Some studies have been carried out on inventory management systems. For example Kwadwo (2016). studied the impact of efficient inventory management on profitability. Evidence from selected manufacturing firms in Ghana, Nwangagi, Guyo and Arase (2015), examined the influence of inventory management on performance of manufacturing firms in Kenya and Nsikan, Etim and Ime (2015) researched on inventory management practices and operational performance of flour milling firms in Lagos, Nigeria. Investigations into other sectors can add to the existing body of knowledge in the inventory management premise .But despite the attention given to inventory management in the practical and academic fields, the sensitive adaptation of this this concept to meet the needs of is grossly under researched Given that Nigerian

Supermarkets has become increasingly competitive and attracting customer satisfaction more difficult to attain, research efforts needs to be concentrated on this significant subject .The present paper therefore ,aims at empirically investigating the connect between inventory management and customer satisfaction within the contest of the Supermarkets.

## **2 Literature Review**

### **Theoretical Framework**

The theoretical framework for this research is anchored in two theories. Relationship marketing theory, Assimilation theory. The Relationship marketing theory is a theory applied in the various fields such as supply chain management, international marketing relationships network databases, information and transactions analysis (Jaisit, 2010). The theory features commitment and cooperation that are imperative in the study of the various relationships existing between different prodigy that are related to the relationship between buyers and sellers especially in the aspect of information study (Wilson, 1995). Toften and Oslan (2003) noted that the relationship marketing theory explains the relationship and information existing between various buyers and sellers, as well as the other explanations of the various track of the stated relationship, the various facets in the relationships as well as the justification for the relationship.

The assimilation theory based on the dissonance theory of Feshnger (1957). Dissonance theory holds that cognitive comparisons between expectation product expectations and the perceived performance of the product by consumers ( Peyten, pitt and Kamery, 1979). Consumer attempts to make reduction and avoid disagreement by adjusting their expectations and the real performance of the product by lifting the level of customer satisfaction through the reduction of the importance of the experience that suffered disconfirmation or the expectations in order to match product performance they received (Anderson, 1993)

### **The Concept Of Inventory Management**

Inventory Management according to Stevenson (2010) is a terminology adopted by a firm to take charge of her investment in inventory. It comprises the recording and monitoring of the level of stocks, forecasting of future demand and a decision on when and how order could be executed (Adeyemi and Salami, 2010). Thus, inventories characterizes items which are kept for sale or are yet to be used in the productive process, while an inventory system is a function of the particular level to be sustained, when to replenish stock and how the order size will look like. Every inventory policy aimed at having in place enough and sustained quantities of excellent quality items accessible to furnish customer needs and at the same time reducing inventory carrying costs (Brigham and Ehrhad, 2005). Stock must be well managed in order to maximize profits” Since “many small business could not absorb the types of losses arising from poor inventory management” (Hedrick, etal, 2008). Basically, inventory management aims at enriching customer service which is achieved through guard against stock out as a result of elasticity in the market place. (Magud and Amos, 1989), Inventory management aims at improving production efficaciousness. (Kotthari, 1922). This study adopts the following inventory management practices as the dimensions of inventory management system: Information Technology, Leon Inventory System and Strategic Supplier Partnership.

### **Information Technology**

Inventory managers require information technology to be successful in an organization in order to satisfy consumers demands the use of computers can boost stock control in calculating the most effective amount of stocks to accommodate and ship through the comparison of inventory variables such as stock levels, demand and delivery rate, the computer accomplishes

this task. Direct communication between organizations is enabled through the Electronic Data Interchange (EDI) which is the transmission of receipt of structured data by the computer systems of trading partners devoid of human mediation through the Electronic Data interchange, the transference of structured data by accepted message standards between computer system is executed by electronic means (Jessop, 1999). With the EDI system connecting the buying organization with its suppliers, stock replenishment can be activated instantly and the conveyance of message from the maiden destination without additional decomposition in the course of transmission.

Electronic point of sales (EPOS) is also applied in inventory management. The primary aim at this technology is to scrutinize and control information emanating from goods sold through the Electronic point of sales, the verification, checking and provision of immediate sales reports and changes in transactions and the sending out of intra-and-inter-stores messages is made possible. This device enables stocks to be restricted to demand, reduction of the risk of obsolescence and deterioration of stocks enhanced, chances of theft limited and the provision of information to buyers upheld. This subsequently, leads to enriched customer service and improved financial performance (Lysons, 1948).

Barcoding is another terminology applied inventory management. It is a technology that is used in counting raw materials and finished goods inventory. The level of inventories facilities are given faster data entry with agreeably precision the anticipated benefits of this method includes the reduction in labor cost via time saving and productivity, and it also elicits enhanced reactions to customer supplies.

### **Lean Inventory System**

Womack et al (1990) pioneered the Lean production principle. The principle has linkage with reduced inventories and holds that as inventory is reduced profit improvement will arise as a result of interest saving with a reduction in storage fees, handling and waste. Brigham and Gapenski (1993) noted that the savings has been evaluated by literature to be between 20-30 percent. Under the Lean Inventory system, we considered management oriented systems which include: Just-in-time (JIT) AND THE Materials Requirements planning (MRP) Systems.

Just-in-time refers to the assemblage of practices that shuts out waste. It is an organization-wide practices that surrounds the whole supply chain. The components of JIT are shared product design with suppliers and customers, movement towards single sourcing proximate suppliers, reduced machine set-up times and total preventive maintenance. The just-in-time inventory system ensures that the return on investment of a business is enhanced through the reduction of inventory and its associated carrying costs. It emphasizes that producers should generate items are handy when required.

The key to just-in-time and inventory reduction is the prompt communication of the consumption of old stocks which activates the ordering of fresh stocks. The fundamental philosophy of JIT is that inventory is delineated as waste. The Materials requirements planning systems (MRP) is a product-oriented computerized technology intended to reduce inventory and sustain delivery program. Lysons and Guillinghm (2003) noted that MRP commune the dependent conditions for materials and elements constituting a finished product to time period over arranged limit of what is possible on the bedrock of forecasts made available by marketing, sales and other input information. The MRP system is grounded on the acknowledgement that demand for an item may rely on the demand for other inventory items. The system greatly

emphasizes on the end product into which related parts are formed. The demand for inventory items emanates precisely from the master production schedule for the finished products.

### **Strategic Supplier Partnership**

Supplier partners came on board in the 1980s due to the movement towards Just-in time and its emphasis is on good working relations between customers and suppliers Lysons and Gillingham (2003) views partnering as a steady fastness on the part of customers and suppliers, irrespective of size, to carry on a long term relationship anchored on transparent collaborative objective to attempt reaching universal standards. Supplier partnership aims at reducing waste, shortening lead times, improvement and simplicity (Bicheno, 1996). The workability of the relationship is dependent on proper communication because a clear and direct communication between suppliers and customers are reasoned to be more effective. The continuous use application of various electronic communication does not undermine personal connections with suppliers representatives.

The involvement of the supplier in the design process clearly reduces the chances of defective items and the risk of obsolescence (Brown, 2005). The supplier partnership has vendor managed Inventory (VMI) as a new attribute of supplier partnership. The vendor managed Inventory sees the supplier holding inventory on site or near the customer making way for the customer to instantly access inventory. The immediate access gives the customer the lead way to draw inventory. In this arrangement, the supplier is responsible for stock replenishment which covers ordering, managing the logistics to move the materials and accounting for inventory. The transference of these costs usually handled by the customer on the supplier, the customer now limits the total cost of their products and boost their margins. Laughlin (2008) stated that supplier profits from a large portion of the purchasers overall purchase requirements.

### **Customer Satisfaction**

Morgenson and Rego (2006) alludes that customer satisfaction is a measure of firms customer base specifically of size, quality and loyalty. Satisfaction according to Eckert (2005) refers to the quality of the products, service, price performance ratio including when a company meets and exceeds customers needs. Customer satisfaction is one of the measures adopted by a firm regarding profitability (Zerbim, et al, 2007). Customer satisfaction is very significant to marketing with strong evidence of strategic linkage between overall service quality and customer satisfaction (Truch, 2006).

According to Giese and Cote (2000) several approaches have been used to estimate satisfaction. With a critic on the lack of agreement on the process leading to satisfaction, they favored the development of context-specific satisfaction measures which is based on customers effective or emotional reaction as the base for the measurement of customer satisfaction companies primarily, aims at satisfying the customer due to the influence it has on competition in industries (Rad, 2008). Hence Oliver (1997) declared that customer satisfaction is “the consumer fulfillment response, a post consumption judgment by the customer that a service provokes a pleasing level of consumption-related fulfillments including under or –over-fulfillment”.

A number of studies have indicated that dissatisfied customers have the tendency to tell nine others while customers who are satisfied have the tendency to tell five other people about company’s products and services and the way they were handled (Cacioppo, 2000). Agawal (2007) maintained that manufacturers are required to strive for customer brand satisfaction by providing customer purchase satisfaction before and after a purchase experience, Customer expectation greatly depends on the adaptability of the supply chain partners (Howgego, 2002).

Business in today's dynamic environment are greatly focused on how to satisfy the customer due to its influence on the firm in the competitive environment (Rad, 2008). A company's product repurchase emanates from loyal customers who are satisfied with the company's offerings. This corroborates with Allen and Willburn (2002) claim that customer satisfaction is often apparent in repeat purchases customers who are really satisfied, likely may come up with an action of accelerating their purchases and consistently purchase from a given firm (Tuli and Bharadwaj, 2009)

### **Inventory Management and Customer Satisfaction.**

Modern business is greatly focused on customers and they are faced with the problem of creating process that meets the demand of the people (Christopher, 2011). The demands comes inform of product diversification and the policy to be considered to be relevant in the competitive industry (Patel and Tirtiroglu, 2001). A well managed system of inventory has a direct linkage to customer satisfaction (Eckert 2007). Widing, (2003) affirms that customers derives more satisfaction when suppliers are able to respond and fulfill their orders in a given time period. This desire to satisfy the customer enables the supply chain member to accumulate buffers stocks. This also places the supplier in a long term relationship with the customer and thereby sustainability in supply in attained (Wang, 2007) the therefore, the satisfaction of the customer is judged as the spirit of accomplishment in the modern dynamic business environment.

### **Empirical Review**

Kwadwo (2016) investigated the impact of efficient inventory management on the profitability of manufacturing firms in Ghana. The study adopted the cross-sectioned design and employed the use of secondary data. The cross sections data gathered covered the period 2004-2014 from the annual reports of four manufacturing companies listed in Ghana stock Exchange (GSE). The four companies were selected through the judgmental sampling procedure. Measures of profitability were examined and linked to proxies for efficient inventory management by manufacturers. The ordinary least square (OLS) that came in the form of multiple regression models was employed in data analysis. The study found out that there is a significantly strong correlation between inventory management and profitability of manufacturing firms in Ghana. The study therefore recommends that efficient management of raw materials inventory should be a major factor to be considered by Ghanaian manufacturing in enhancing or boosting their profitability.

Nwangangi, Guyo and Arasa (2015), researched on how inventory management influenced the performance of manufacturing firms in Kenya. The research design adopted was both descriptive and explanatory. Data was collected from heads of logistic department of 320 firms through the use of questionnaire. A pilot study was conducted to test for validity reliability and practicability of the research instruments Descriptive static's such as parentages and frequencies was used, while the inferential statistics used was the linear regression. The entire data collected was executed through the use of the statistical package for social sciences, (SPSS) version 22. The findings revealed that improvement in inventory management by one unit will lead to increase in marketing performance, of financial performance and customer satisfaction by 0.300, 0.423 and 0.143 units respectively. The study also found that inventory management influences all the constructs of measuring firm performance (Market performance, financial performance and customer satisfaction). The study therefore recommends that managers in manufacturing firms in Kenya incorporate logistic management activities such as inventory management within the corporate strategic plan on firm performance.

Nsikan, Etim and line (2015) investigated the inventory management practices in flour mills manufacturing firms with aggregate staff population of 2569 which constituted the unit of study. Questionnaire was used as the major source for data collection. The mean and standard deviation was used to analyze descriptive data. Results indicates that in exception of the large manufacturing companies, most of the medium-sized flour milling firms adopts different inventory management strategies and polices were rather based on factors such as changing level of customer demand, prevailing industry practices, forecast estimates and guesses, and available production capacity.

The findings also indicated a significant difference between effective management of inventory and optional operating performance. The study recommends the need for manufacturing firms to implement scientific inventory management models to adequately handle materials shortages, product stock outs, and components pile up with consequent penalties.

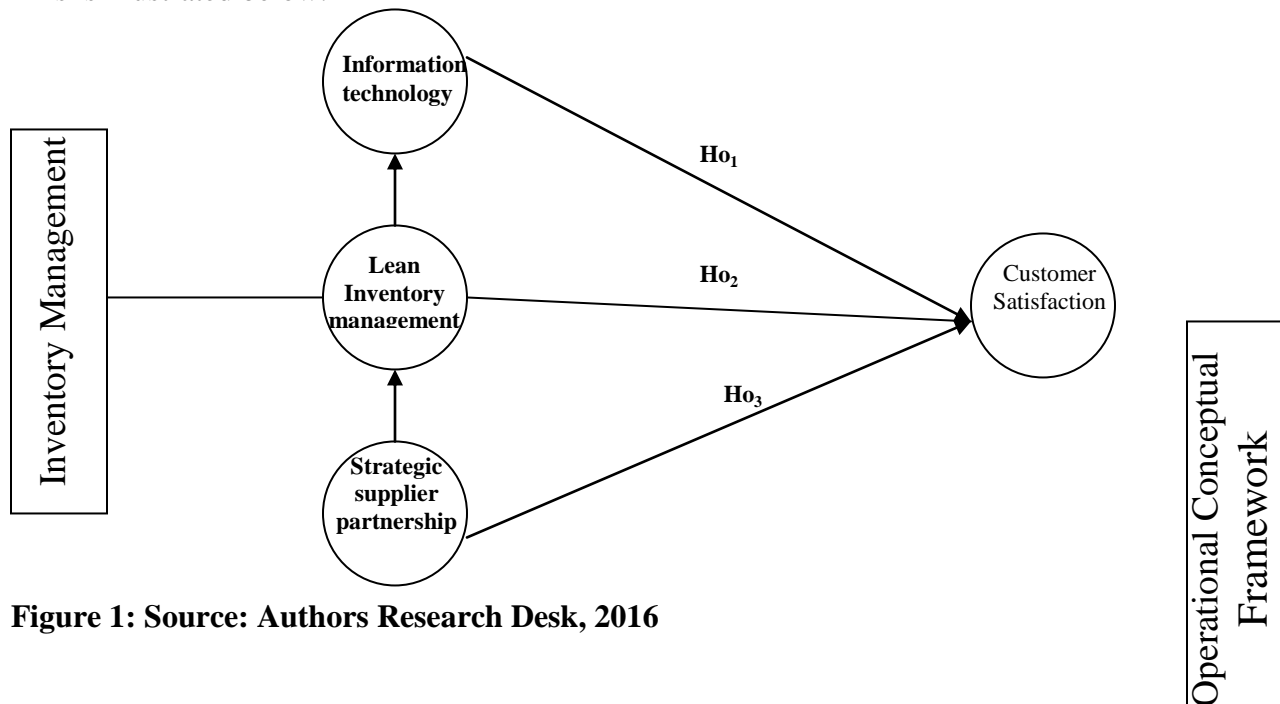
It is expected that a well designed inventory system will affect customer satisfaction. We therefore, argued that inventory management influences customer satisfaction through information technology, lean inventory system and strategic supply partnership, and from the review of literature, we developed six working hypotheses to guide the study :

**Ho<sub>1</sub>:** Information Technology is not significantly associated with customer loyalty

**Ho<sub>2</sub>:** Lean Inventory system is not significantly associated with customer loyalty

**Ho<sub>3</sub>:** Strategic supply partnership is not significantly associated with customer satisfaction

This is illustrated below:



**Figure 1: Source: Authors Research Desk, 2016**

### 3. Methodology

The purpose of this study was to explain the extent of the relationship between inventory management and customer satisfaction in supermarkets in Rivers State. The descriptive research design was adopted and the survey method was used as a useful aid in examining the extent to which inventory management explains or predicts the variable in customer satisfaction. Fundamentally the population of the study encompasses staff of selected supermarket within Rivers State with a sample size of Five Hundred (500) by way of convenience sampling.

Observably, the sampling methods was adopted due to fact that staff of supermarket in Rivers State are virtually numerous and also to differentiate the super maker organization within the state may be impossible as such, it may be quite cumbersome if the probability method was employed

Therefore, fifty (50) well established supermarkets in Rivers State were selected. The Researchers assumed that these supermarkets would be able to provide useful information regarding their involvement in Inventory management practices. Ten (10) respondents were further selected in each of the fifty supermarkets to give a total of five hundred respondents. This was used a response rate generate data.

The participant were instructed to complete a self administered questionnaire that assess there perspectives of inventory management constructs. All informal were literate supermarkets staff further, the conceptualize concept(information technology lean inventory management and strategic supply partnership were all measure on 5 point likert types scale anchored on 5 = “Strongly Agree” and 1= “Strongly Disagree” at both extreme. A total of 17 scale were employed and to test operationalized constructs. Some of the scaled items were employed and modify with line with approach used in the study by Lwiki etal (2013). A survey approach to solving the research problems is in line with previous studies with similar aims. For instance,( Kwadwo, 2016; Nwangangi etal ,2015; Nsikak etal, 2015). Similarly, other past studies (e.g Hedrick and Floyd 2008; Knights 2008, Kounanakes 2008; Lee and Kleiner 2001). Were all survey based.

To test the dimensional structure suitability and usability of the scale, the Cronbach’s alpha test of internal consistence to assess the scales reliability (see appendix), whereas Spearman’s Correlation Techniques was use to the variables. The aim was to establish the extent of association between the predictor and criterion variable of the study.

#### **4. RESULTS**

##### **Response distribution and respondents’ demographic anatomy**

Of the 500 survey questionnaire administered, 400 were retrieved, resulting to a response rate of approximately 30 percent which was used for analysis. It is clearly supported within literature that response rate 30% is good and accepted level when the researcher uses survey questionnaire (Crimp and Wright, 1995). Of the 400 usable responses 280 ( 70 percent) were male while 120 (30 percent) were female . In terms of respondent age, 1.9 percent was under 20 while 44.2 and 38.5 percent of the respondents were within the age brackets of 20-29 and 30-39 respectively. In total, 9.6 percent and 5.8 percent were within the age brackets of 40-49 and 50-59, respectively while no respondents was 60years or over. In terms of the number of year respondent have work in the supermarket, 39 percent have been in the restaurant between 1 - 10 years, 25 percent between 10-20years, 18 percent between 20-30year and 12 percent between 30-40 years. Finally, on the level of educational attainment 45percent were SSCE Holders, 30percent degree holders 16 percent OND holder and 9 percent MSC holders.



## Test of Hypotheses

Model				
		1	2	3
s/no	Statistic	Information Technology and customer satisfaction	Lean Inventory Management and customer Satisfaction	Strategic Supplier Partnership and customer Satisfaction
1	Spearman's rho	0.727	0.795	0.352
2.	Significance (p)	0.00	0.00	0.00

Source: SPSS Output on Research Data Collected (2016)

### Hypothesis one

**Ho<sub>1</sub>:** Information Technology is not significantly associated with customer loyalty.

The spearman's rank correlation coefficient  $\rho$  is 0.727\*\* showing that a significant association exists between information technology and customer loyalty. The probability value (pv) = 0.000 is less than 0.05 thereby concluding that the relationship is significant. Hence we accept Ha<sub>1</sub>: that information Technology is significantly associated with customer loyalty. This indicates that information technology in inventory management could bring about customer satisfaction in supermarkets.

### Hypothesis Two

**Ho<sub>2</sub>:** Lean Inventory Management is not significantly associated with customer loyalty.

Correlation Analysis showing the Association between Lean Inventory Management and Customer Loyalty

The Correlation coefficient is 0.795\*\* which presents strong PV =0.000 < 0.05 This implies that there exist a strong and positive association between lean inventory management and customer loyalty. When the lean inventory management system improve customer satisfaction increases. Therefore the alternative hypothesis rejected there for customer satisfaction to the supermarkets is to the expectation for improvement.

### Hypothesis Three

**Ho<sub>3</sub>:** Strategic Supplier Partnership is not significantly associated with customer loyalty

The correlation coefficient is 0.352\*\* and pv= 0.000<0.05. The correlation coefficient is positive and weak: these imply that when strategic supplier partnership is not effective it also affects customer loyalty. Customer satisfaction is dependent on satisfaction from the finding, because strategic suppliers partnership is weak, customer satisfaction is a result of poor relationship between suppliers and executives of the supermarkets.

### Discussion of Findings

The linkages between Inventory management and customer satisfaction have consistently being a priority for business organization worldwide. The successful execution of inventory policies that match customer satisfaction and ginger customer satisfaction has been a key practices of businesses. The dynamic business environment coupled with stiff competition in the market place serves as a pointer to companies to work harder in order to present adequate means of enhancing customer satisfaction. This study empirically investigates how some determinants of inventory management affects customer loyalty, within the super market context. The following unique outcomes were generated and discussed herein.

The analysis identified three key dimensions of inventory management within the super market context. The study found out that most of the supermarkets in Rivers State use various inventory management systems and models namely. JIT, MRP, Barcode and manual, and the study found that the manual system, MRP AND THE JIT models were the most used in inventory management. This is consistent with Duru et al (2014) findings that some of these models were also used in the inventory management systems of most manufacturing firms. It can therefore, be concluded that inventory management activities features greatly in supermarkets. Information technology was found to be positively associated with customer loyalty. It therefore, follows that firms that leverage information technology can achieve strong customer satisfaction objectives because satisfied customers will eventually become loyal customers. This indicates that information technology in inventory management could bring about customer loyalty. This supports the findings of Haque and Islam (2013) that collaboration and information technology affects customer satisfaction. Thus, companies should continually make efforts in creating compatible information technology systems for supply chain effectiveness. The outcome will be seen in enhanced customer satisfaction and customer loyalty.

It was also found that the lean inventory management system was significantly associated with customer satisfaction this result indicates that the control of inventory through the lean inventory management system leads to customer satisfaction and commitment that could create exchange relationship that could be valued significantly. This is in line with Lwike etal (2013) findings that the lean inventory management emphasizes the creation of items that would exactly when it is required:

Further, strategic Supplier partnership has a positive weak relationship with customer loyalty. This implies that strategic supplier partnership may affect customer satisfaction positively or negatively depending on the level of relationship between suppliers and executive of a company. Satisfaction on the part of the customer increases when the cost normally borne by the customer is shifted to the supplier and he is able to increase his margins. This enables the customer to pull inventory as he needs and only pays for that which he consumes. This corroborates with Loughrin (2008) assertion that the supplier benefits from a greater share of the customer's total purchase requirements.

The above discussion, points out the need for firm level implementation of efficient inventory management policy to emphasize specific context outcomes. Given the dynamic nature of the market place, heightened competition and the shrinking number of consumers, the optimal decision for supermarket managers is to focus on the determinants of inventory management system as have been identified in this study. Concentration on the determinants of inventory management system and its interrelationships is an essential way for building neighborhood of loyal and entrusted customers that can add to a company's long-term profitability

## 5 Conclusion

The study sought to find out the effect of inventory management on customer satisfaction in supermarkets in Rivers State. The findings of this study provide key insights to supermarket managers that seeks to design excellent inventory management practices and programs to achieve customer satisfaction.

The study identified three attributes that impacts on customer satisfaction: Information technology, lean inventory management system and strategic supplier partnership. The results provides empirical evidence that the three inventory management dimensions are distinct constructs in Nigeria in the context of supermarkets. Lean Inventory Management System with a correlation coefficient of 0.795 was found to have the most significant impact on customer satisfaction, whereas, information technology with a correlation coefficient of 0.725 was found to have a strong positive impact on customer satisfaction, while strategic supplier partnership with a correlation coefficient of 0.352 was found to have a positive weak association with customer. Following these interrelationships, it can therefore be argued that inventory management implementation within the context of supermarket will be more successful if based on excellent customer orientated marketing. This is because efficiency in service delivery reinforces trusts which, positively impacts customer satisfaction. Customer satisfaction subsequently enhances customer satisfaction.

## Recommendations

Based on the findings of the study, the following recommendations were made:

1. It is recommended that supermarkets develop policy architecture to encourage the implementation of the best inventory management practices such as JIT and MRP.
2. Managers of Supermarkets should incorporate logistic management activities that attends to customers satisfaction
3. Supermarket managers should invest in modern technology and implement EDI to decrease inventory costs and enhance returns.
4. More efforts should be channeled effectively and efficiently to manage customer Satisfaction

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**APPENDIX A**  
**Reliability Analysis on Items of Customer Satisfaction**

**Case processing Summary**

	N	%
Cases valid	400	100.0
Excluded	0	.0
Total	400	100.0

a. Likewise deletion based on all variables in the procedure

**Reliability Statistics**

	N
Cronbucha Alpha	N of items
.886	6

**items-Total Statistics**

	Scale mean items Deleted	Scale variance if items deleted	Corrected item- total correlaton	Cronbach's Alpha if item Deleted
Customers are not willing to dump this supermarket for any other superman	16.91	34.598	.555	.925
I don't think any other supermarket has better product assortments than my super market	17.78	19.966	.980	.812
I pay very serious attention to service delivery in this super market	17.73	19.966	.980	.812
Increases of items of commodities in this supermarket may not force customer to stop patronizing her	17.73	19.966	.980	.812
My supermarket's value-added services are the best of its kind.	17.73	19.966	.980	.812
Our supermarket method of handing stocks is very appreciable	17.01	34.887	.022	.932



**Reliability Analysis on Items of Strategic Suppliers Partnerships  
Case processing Summary**

	N	%
Cases valid	400	100.0
Excluded	0	.0
Total	400	100.0

A list wise deletion based on all variables in the procedure

**Reliability Statistics**

Cronbach's Alpha	N of items
.756	7

**items- Total Statistics**

	Scale mean items Deleted	Scale variance if items Deleted	Correlated items-total correlation	Cronbachs Alpha if item Delet
The involvement of the supplier in the design process reduces chance of defective items and risk of obsolescences	2.4.93	24.930	.235	.766
Through the strategic supplier partnership have access to inventory	2503	11.365	.652	.687
The supplier is responsible for stack replenishment.	24.74	12.251	.474	.730
The system helps the customer to limit the total cost of their product	24.84	12.875	.562	.716
The strategic supplier partnership affects customer satisfaction	25.22	9.965	.791	.643
This system reduces waste shorten lead time	25.04	12.613	.413	.738
This system emphasis good working relationship between customers and suppliers	25.88	10.858	.363	.782

**Reliability Analysis of Lean inventory Management System  
Case processing Summary**

	N	%
Cases valid	400	100.0

Excluded	0	.0
Total	400	100.0

A list wise deletion based on all variables in the procedure

### Reliability Statistics

Cronbach's	
Alpha	N of items
.815	7

### Items-Total Statistics

	Scale mean items Deleted	Scale variance if items Deleted	Correlated items-total correlation	Cronbachs Alpha if item Delet
The lean inventory management system helps your firm realize her objectives	24.41	8.323	.642	.755
Your firms profitability is enhanced through reduction in inventory	24.68	10.464	.078	.876
The demand for inventory items is a product of the master production schedule for the finished products	24.12	7.205	.881	.724
Your Supermarket method of operation the learn inventory method is very appreciative	24.52	8.155	.638	.775
Investment in the lean inventory management system result in low service failure	23.52	9.789	.465	.806
The annual changes in learn inventory system affects customer satisfaction	24.32	9.124	.490	.801
The smooth operation at the inventory management system	24.12	8.007	.853	.742

affects customer satisfaction				
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**Reliability Analysis on items of lean Inventory  
Case Processing Summary**

		N	%
Cases	valid	400	100.0
	Excluded	0	.0
	Total	400	100.0

A list wise deletion based on all variables in the procedure

**Reliability Statistics**

Cronbach's Alpha	N of items
.815	7

**Items-Total Statistics**

	Scale mean items Deleted	Scale variance if items Deleted	Correlated items-total correlation	Cronbachs Alpha if item Delet
The learn Inventory Management system helps your firm realize her objectives	24.41	8.323	.642	.755
Your firm's profitability is enhanced through reduction inventory	24.68	10.464	.078	.876
The demand for inventory items is a product of the master production schedule for the finished products.	24.12	7.205	.881	.724
Your supermarket method of operation the lean inventory method is very appreciative	24.52	8.155	.638	.775
Investment in the lean inventory management system result in low service	23.52	9.789	.465	.806
The annual changes in learn inventory management system affects customer satisfaction	24.32	9.124	.490	.801
The smooth operation of the inventory management system affects customer satisfaction	24.12	8.007	.853	.742

Reliability Analysis on items of Information Technology  
Case processing Summary

		N	%
Cases	valid	400	100.0
	Excluded	0	.0
	Total	400	100.0

A list wise deletion based on all variables in the procedure

Reliability statistics

Cronbach's Alpha	N of items
.742	4

items-Total Statistics

	Scale mean if items Deleted	Scale variance if items Deleted	Correlated items-total correlation	Cronbachs Alpha if item Delet
The impact of information Technology on the implementation of your firms objectives is enormous	12.62	2.483	.555	.692
Investment in information Technology in management results in an number of improved ways of rendering services annually.	12.45	3.606	.556	.692
The huge amount of money commuted on information technology annually results in high customer satisfaction annually	12.64	2.777	.676	.599
The annual changes on information technology carried out by your firm result in low inventory	12.45	3.415	.436	.735

**Appendix B**

**Correlation Analysis showing Association between Information Technology and Customer Satisfaction**

**Correlation**

Type	variable 1	statistics	Information Technology	Consumer Satisfaction
Spearman's rho	Information Technology	Correlation coefficient Sig (2 tailed)	1.000	.727*** .000 400
		N	400	
Coefficient	Customer Satisfaction	Correlation. Sig. (2-tailed)	.727*** .000 400	1.000 400
		N		

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

**Correlation Analysis showing the Association between Lean Inventory Management and Customer Satisfaction**

**Correlation.**

Type	variable 1	statistics	Information Technology	Customer Satisfaction
Spearman's rho	Lean Inventory Management	Correlation coefficient Sig (2 tailed)	1.000	.795*** .000 400
		N	400	
Coefficient	Customer Satisfaction	Correlation. Sig. (2-tailed)	.795*** .000 400	1.000 400
		N		

\*\* Correlation is Significant at the 0.01 level (2-tailed)

**Correlation Analysis showing the Association between Strategic Supplier partnership and Customer Satisfaction**

**Correlation**

Type	variable 1	statistics	Information Technology	Customer Satisfaction
Spearman's rho	Strategic Supplier Partnerships	Correlation coefficient Sig (2 tailed)	1.000	.352*** .000 400
		N	400	

<b>Customer Satisfaction</b>	<b>Correlation.</b>	<b>.352***</b>	<b>1.000</b>
<b>Coefficient</b>	<b>Sig. (2-tailed)</b>	<b>.000</b>	<b>400</b>
	<b>N</b>	<b>400</b>	<b>400</b>

\*\* Correlation is significant at 0.01 level (2 tailed)