Role of Inventory Management on Customer Satisfaction among the Manufacturing Firms in Kenya: A Case Study of Delmonte Kenya

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Abstract
Inventory management plays a vital role in enhancing customer satisfaction among the manufacturing firms in Kenya. The study sought to carry out an investigation on the role of inventory management on customer satisfaction among the manufacturing firms in Kenya. Customer satisfaction is crucial since manufacturing firms contribute greatly to the economic development of a country. The research was carried out at Delmonte Kenya since the company has a well laid down supply chain inventory information sharing system that is linked to the customers in real time to enhance inventory management. A census was carried out on all the 50 employees at Delomonte Kenya who were directly and indirectly involved in the supply chain management activities. A questionnaire, interview guide and observation guide were used to collect the data. A response rate of 90% was obtained. Based on the research findings, all the respondents (100%) indicated that the company experienced shortages in inventory. The study concluded that manufacturing firms have poor inventory management systems and this has greatly impacted on their ability to satisfy the customer.

Keywords: Inventory management, Customer satisfaction

1. Introduction
The liberalization of markets across the globe has led to an increase in competition especially among the manufactured goods and services (Shafie, 2004; Verstege and Amstel,, 1991). The competitiveness of companies in the future will largely depend on how they respond to the needs of the customers at the end of a supply chain better than their competitors (Hogstron and Grigorjev, 2003). Pressure is mounting on firms to reduce their time to market, manage risks in their supply chains, reduce the total supply chain costs and ensure provision of quality services to the customers across the globe. By doing so, firms are likely to be rewarded through an increased market share.

A research carried out by Sheila (2010) in Uganda shows that manufacturing firms such as Bata Shoe Company, East African Breweries (EABL), British American Tobacco (BAT) have a problem of inaccurate forecasts mainly because they lack real time inventory information on customers demand. This has in turn led to late deliveries, inadequate deliveries and lack of consistency in
the delivery of products and thus leading to lack of customer satisfaction and non responsiveness to the market signals (Daugherty and Autry, 1999).

1.1 Statement of the problem
According to Toomey (2000), the ultimate aim of inventory is to serve the customer. As explained by Viale (1991) inventory is a very expensive asset in an organization; however, this expensive asset can be replaced by inventory information which is less expensive. Some of the problems facing manufacturing companies today are the ability to provide quality services to the customers whose root cause lies in poor inventory management (Manjrekar, Bhonsale & Kamath, 2008).

The main challenge today among firms in Kenya is the need to enhance efficiency while at the same time achieving effectiveness (customer satisfaction) (Heikilla, 2002). However, firms in Kenya have been accused of poor inventory management techniques and this has greatly affected their ability to satisfy their customers (Sheila, 2010; Mutua, 2010). The study therefore sought to carry out an investigation on the role of inventory management on customer satisfaction among the manufacturing firms in Kenya.

1.2 Objectives of the Study
The general objective of this study was to investigate the role of inventory management on customer satisfaction among the manufacturing firms in Kenya using Delmonte Kenya as a case study.

The specific objectives of the study were to:
1. To determine the role of inventory levels on customer satisfaction among the manufacturing firms in Kenya
2. To examine the role of inventory costs on customer satisfaction among the manufacturing firms in Kenya
3. To investigate the role of inventory lead times on customer satisfaction among the manufacturing firms in Kenya

2. Literature Review
The chapter discussed the literature review of the study. The main aim of the literature review was to explore the available and existing information which had been covered by the various researchers. The literature was reviewed from journals, the internet, reference books, working papers, reports and periodicals.

2.1 Theoretical Framework
2.1.1 Relationship Marketing Theory
This is a theory that is used in the various fields such as supply chain management, international marketing, relationships, networks, databases, information as well as in transactional analysis (Jraisat, 2010). This theory offers various dimensions such as commitment and cooperation that are useful in studying the various relationships that exists between different phenomenon that are related to the relationship between the buyer and the seller especially in aspects of information sharing (Wilson, 1995). The relationship marketing theory explains the various buyer-supplier relationships and its information sharing (Toften & Olsen,
2003) as well as offers explanation of the various streams in the said relationships, the various dimensions in the relationship as well as the rationale or the justification for the relationship such as the structure and the process of the relationship.

2.1.2 Assimilation Theory
Assimilation theory is based on the dissonance theory by Festinger’s (1957). Dissonance theory states that consumers make cognitive comparison between the expected product expectations and the perceived performance of the product (Peyton, Pitts and kamery, 1979). According to Anderson (1993), consumers try to reduce and avoid disagreement by making adjustments concerning their perceptions about a certain product and try to bring them more in line with their expectations (Peyton, Pitts and kamery, 1979). Consumers also try to reduce the worry between their expectations and the actual performance of the product by raising the level of satisfaction through the minimization of the importance of the experience that have been disconfirmed or by distortion of the expectations so that they can match with the product performance perceived (Olson and Dover, 1979).

2.2 Empirical Review of Variables

2.2.1 Inventory management
The main aim of inventory management is to ensure that organizations hold inventories at the lowest cost possible while at the same time achieving the objective of ensuring that the company has adequate and uninterrupted supplies to enhance continuity of operations (Mpwanya, 2005). A study carried out by Bhausaheb & Routroy, (2010) shows that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction. Results of a study carried out by Rosenfield & Simchi-levi (2010) shows that inventory management has a huge financial implication on both the customer satisfaction and financial performance of an enterprise.

**Inventory levels**
High levels of inventory increases the probability that the customers are likely to get what they want, increases sales and service levels (Cachon & Terwiesch, 2006). High inventory levels however lead to both stock holding costs and in-store logistics errors. This is because it becomes difficult for the employees to perform shelving and replenishment which makes goods physically available in the store but the employees cannot trace those (phantom products) (Ton & Raman, 2005).

Maintaining optimum levels of inventory is important in an organization because excess inventory results in stock holding costs (rental charges, opportunity costs, obsolescence costs, breakages, pilferage) and inadequate inventory (stock outs) is also costly as customers may leave to competitors (Berling, 2011). For each sale that an organization does loose as a result of stock outs, the company not only looses profits but also customers who may be dissatisfied and source for an alternative reliable supplier (Knights, 2008). When inventory management (maintaining adequate inventory levels) is carried out efficiently, it ensures that the materials needed in an organization are available in the right quality, quantity thus avoiding issues of
overstocking and under stocking and ultimately guaranteeing customer satisfaction and increased profits (Ewuolo, et al, 2005).

**Inventory Costs**

Inventory costs in an organization comprises of inventory carrying costs (opportunity costs, insurance, rent), ordering costs (transport charges, insurance on goods in transit, inspection of goods inwards) as well as the shortage costs (idle machines, labor, loss of sales). Members of the supply chain should find an optimum balance between supply chain inventory costs and customer satisfaction (Bertrand, Poutre & Luin, 2006).

A study by Narkoty (2012) among the Ghana health services found out that inventory is one of the largest assets in the organizations and hence the need to manage it. Results of a study carried out by Nordin (2002) shows that inventory costs can be reduced by implementation of reordering points as well as appropriate Economic Order Quantities (EOQ).

Studies by Lee and Centinkaya (1998) show that companies increasingly employ strategies such as Vendor Management Inventory (VMI) in an effort to control inventory carrying costs. According to Small Business resource (2013), organizations cash flows can only be improved through the reduction of excess inventory and the optimization of inventory levels.

**Lead Time**

Today’s customer focused business environments are facing the challenge of creating processes that are responsive to the demands of the customers (Christopher, 2011). These demands for example include, product diversification as well as pricing which must be considered in order to remain competitive (Patel & Tirtiroglu, 2001).

In addition, among these demands also is the need for shorter lead-times especially among the customers who want to receive the products as soon as they order them (Da Cunha, Agard & Kusiak, 2007). Reduction in lead times means that products and information flow in a seamless manner which allow all the supply chain members to respond to the customers’ needs quickly while maintaining inventory to a minimum (Brewer, 2000). The increase in the distance from the suppliers premises and the complexity in the logistical aspects often results in longer lead times and higher levels of inventory (Ohno & Mae, 2012). However, it is often a challenge for companies that strive to achieve cost reduction through lower lead-times and reduced inventory levels since it is difficult for logistics to achieve both goals (Rushton et al, 2006).

Eckert (2007) asserts that better management of inventory is directly proportional to customer satisfaction. Customers are said to be more satisfied if their suppliers are able to meet and fulfill their orders within the required time (Widing, 2003). The desire to satisfy the customers according to (Wang, 2007) makes the supply chain members to keep buffer (safety) stocks. The suppliers also enter into long-term relationships (which require trust and commitment) with their suppliers to secure sustainability in supplies.

**2.2.2 Customer satisfaction**

Morgan & Rego (2006); Fornell et al (2006) define customer satisfaction as a measure of a firms customer base in terms of size, quality and loyalty. Customer loyalty and product repurchase are as a result of customer satisfaction (Eckert, 2007). Among the several ways that an organization can employ to service its customers are through information management and
customer collaboration (Langly and Halcomb, 1992) Satisfaction according to Eckert (2005) refers to the quality of the products, services, price performance ratios as well as when a company meets and exceeds the requirements of the customer. Manufacturing organizations may identify customer satisfaction in terms of on-time delivery as well as meeting customer specification needs (Eckert, 2005). Variables such as customer needs (having the products immediately and on hand to satisfy the customer’s needs), vendor partnerships (sharing of information regarding sales, sales forecasts as well as amount of inventory) and data integrity (data on SKU and location which assists in overall inventory management) (Lee & Kleiner, 2001) often define customer satisfaction among the manufacturing sector. Firms must respond to the changing customers needs in the increasing competitive environment (Zhang, 2005). Zerbini et al (2007) asserts that customer satisfaction is one of a firm’s milestones towards profitability. The main focus of companies today is to satisfy the customer which has an impact on the competitiveness of an enterprise (Rad, 2008). Customers’ expectations according to (Howgego, 2002) are largely dependent on the flexibility of the supply chain partners.

Customer loyalty
Customer loyalty is the act of customers buying current brands repeatedly as opposed to choosing those of competitors (Wyse, 2012). A study carried out by Mitchell (2004) shows that customer satisfaction leads to customer retention which in turn generates a loyal customer base in an organization. Customer loyalty requires that manufacturing companies delivers on their customers’ expectations fully in a predictable and an ongoing relationship (Campton, 2004). Customers often judge the quality of the services that they receive using their perceived expectations which often lead to customer satisfaction and loyalty (Colburn, 2013). According to Cacioappo (2000), an increase in customer loyalty by five percent can lead to an increase in a company’s profits by 25 to 85 percent.

Loyal customers according to Eckert (2005) are six times more likely to purchase or to recommend the purchase of a company’s products and services to someone else. Various studies have also shown that dissatisfied customers are likely to tell nine others while satisfied customers are likely to tell five other people about the good service and treatment that they have received (Cacioappo, 2000). Manufacturers need to provide customer purchase satisfaction before and after a purchase since this is likely to lead to customer brand loyalty (Agarwal, 2007).

Repeat Purchases
Customer loyalty is often manifested in repeat purchases (Allen & Wilburn, 2002). Tuli & Bharadwaj (2009) observes that satisfied customers are likely to adapt a behavior of increase in purchase as well as a continuous purchase from the firm. Agarwal, (2007) asserts that provision of customer purchase satisfaction before and after a purchase results in repeat purchases. Provision of satisfaction before the actual purchase by the customer would include aspects such as provision of quality products, fair pricing of products as well as flexibility (Amini et al, 2005). Post purchase customer satisfaction on the other hand would include activities such as provision of repair services and efficient operations of reverse logistics (Howgego, 2002).
On-time delivery
According to Wallin (2006), customers are more satisfied if the time taken to deliver their products is less than the time they are willing to wait once they have placed an order. Flexibility is paramount in meeting the delivery deadlines (Gunasekara, 2001) and therefore information sharing is required to enable the members of the supply chain to meet specified delivery dates by the customers (Ellram, 1999). A study carried out by Yin-mei (2013) shows that effective customer delivery influences customer satisfaction and service quality. Customers are said to be more satisfied if their suppliers are able to meet and fulfill their orders within the required time (widing, 2003).

3.0 Research Methodology
The study applied a case study research design, because only one entity was being studied with the ultimate aim of gathering data from the respondents on the role of inventory management on customer satisfaction. The population for the study was all the 1,200 food manufacturing firms in Kenya (Kenya Association of Manufacturers, 2013). The target population comprised of 50 employees working at Delmonte. The case study used a census because the population was not large (Kothari, 2006). Data collection methods were classified as, observation guides, interviews guides (for the management), questionnaire (for both management and the customers) as well as the use of available records in the organization.
The study collected primary and secondary data. Primary data provided a presentation of the actual information that was obtained to accomplish the aim of the study. This primary data was gathered using both open ended and closed ended questionnaires. The questionnaires were self administered to the 50 employees who were picked for the purpose of analysis. Empirical and theoretical literature from books, journals and the internet were sourced for the purpose of collecting the secondary data.
Descriptive statistics in the form of frequencies, percentages and inferential statistics were used for analysis in the study (Mugenda and Mugenda (1999)). Statistical Package for Social sciences (SPSS) computer software (version 18) was used to present the data in the form of frequency, tables and percentages.

4.0 Results of the Study

4.1 Inventory management
The study sought to establish various aspects of inventory management such as the availability of inventory records on raw materials, work in progress, finished goods, the inventory levels held, inventory management policy and inventory shortage experienced by the company. Based on the results, 7% of the respondents said that the company had records of raw materials, majority 93% said the company did not have records of the raw materials, 15% of the respondents said the company had records of work in progress while majority, 85% said the company lacked work in progress records. 9% of the respondents said the company had records of finished goods while majority 91% of the respondents indicated that the company did not keep any records of finished goods. 27% of the respondents said the company carried out a determination of the inventory levels while majority 73% said that the company did not. All the
respondents (100%) said that the company experienced inventory shortages. These results indicate that aspect of inventory management were poor in the organization as shown in table 4.1 below:

<table>
<thead>
<tr>
<th>Inventory Management</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw materials</td>
<td>(7%)</td>
<td>(93%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Work in progress</td>
<td>(15%)</td>
<td>(85%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Finished goods</td>
<td>(9%)</td>
<td>(91%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Inventory level</td>
<td>(27%)</td>
<td>(73%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Inventory shortage</td>
<td>(100%)</td>
<td>(0%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

**Inventory levels**

The researcher sought to find out the inventory levels held by the organization based on the inventory policy that was used to manage inventory levels. Majority 67% of the respondents indicated that the company used Economic Order Quantity (EOQ), while 7% of the respondents indicated that the company used Just In Time (JIT), 7% indicated both EOQ and JIT, 7% indicated that inventory policy was as per customer requirements, 7% indicated that the company determined both maximum and minimum stock levels, and 7% indicated that the company determined the inventory levels using the Re-order-point level. These results showed that the EOQ was the most applied method of determining inventory in the organization as shewn in figure 4.1 below;
Inventory costs

The study sought to find out the inventory costs incurred based on the methods that the organization employed to reduce inventory costs. As indicated in figure 4.2 below, 36% indicated that the company employed Vendor Management Inventory (VMI), 36% indicated that the company employed Just In Time (JIT), while 27% indicated that the company used other methods such as EOQ to reduce inventory costs.
Figure 4.2 Inventory costs

Lead times
The study sought to establish lead times by finding out whether there were delays between the times the goods were ordered from the supplier and when they were actually received in the organization. As shown in the figure 4.3 below, majority 62% indicated that it took 1-7 days before the goods were actually delivered from the time the goods were ordered, 23% indicated 2-4 months, 8% indicated that the period taken between order and receipt varied depending on the source of the goods while the other 8% indicated that that it took 1-4 weeks for the goods to arrive in the organization from when they were actually ordered.

Figure 4.3 Lead times

4.2 Customer satisfaction

The study sought to find out the level of customer satisfaction in terms of repeat purchases, on time delivery and customer loyalty. None of the respondents strongly agreed that they were satisfied 67% of the respondents agreed that they were satisfied with the supplier, 13 disagreed, 8% indicated that they were not happy with the supplier, 33% were not sure, 58% disagreed that they were happy with supplier. In terms of repeat purchases, 83% agreed that they would buy from the supplier, 8% were not sure while 8% disagreed. 58% of the respondent indicated that they were happy with the supplier, 25% were not sure, while 17% disagreed that they were happy with the supplier. Majority 92% of the respondents agreed that they had a bad experience with the supplier, 8% were not sure. 25% of the respondents strongly agreed they were pleased with the services of the supplier, 58% agreed they were pleased with the services of the supplier, 8% were not sure while 8% disagreed that they were happy with the services of the supplier. 20% of the respondents strongly agreed that they were pleased with the day to day dealings with their suppliers (on time delivery), 33% agreed that they were pleased with
the day to day dealings with the suppliers, 7% were not sure while 20% strongly disagreed that they were pleased with the services of the supplier as indicated in the table 4.2 below

Table 4.2 Customer satisfaction

<table>
<thead>
<tr>
<th>Customer satisfaction</th>
<th>SA</th>
<th>Agree</th>
<th>Not sure</th>
<th>Disagree</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction with the supplier</td>
<td>0</td>
<td>(67%)</td>
<td>0</td>
<td>(13%)</td>
<td>0</td>
</tr>
<tr>
<td>Not completely happy with the supplier</td>
<td>0</td>
<td>(8%)</td>
<td>(33%)</td>
<td>(58%)</td>
<td>0</td>
</tr>
<tr>
<td>Repeat purchase from the supplier</td>
<td></td>
<td></td>
<td>(8%)</td>
<td></td>
<td>(8%)</td>
</tr>
<tr>
<td>Happy with the supplier</td>
<td></td>
<td></td>
<td>(25%)</td>
<td>(17%)</td>
<td></td>
</tr>
<tr>
<td>Bad experience with the supplier</td>
<td></td>
<td></td>
<td>(92%)</td>
<td>(8%)</td>
<td></td>
</tr>
<tr>
<td>Pleased with the supplier services</td>
<td>(25%)</td>
<td>(58%)</td>
<td>(8%)</td>
<td>(8%)</td>
<td></td>
</tr>
<tr>
<td>Pleased with day to day dealings with the supplier (on time delivery)</td>
<td>(20%)</td>
<td>(33%)</td>
<td>(7%)</td>
<td>(20%)</td>
<td></td>
</tr>
</tbody>
</table>

Key: SA (strongly agree), A (agree), D (disagree), DS (Strongly disagree)

Inferential statistics

**Hypothesis A1: Inventory management has a role in customer satisfaction**

Delay in ordering had a strong significant negative relationship (-.718) with customer satisfaction. This means that an increase in the delay of the goods ordered will result to a decrease in customer satisfaction. Delay in ordering had a strong significant positive (.652) relationship with customer dissatisfaction. This means an increase in delays of goods ordered will result to an increase in customer dissatisfaction. Delay in ordering had a strong significant negative relationship with customer loyalty (-.610). This means that an increase in delays of goods ordered will result to a decrease in customer loyalty. Delays in ordering had a strong negative relationship with repeat purchases (-.627). This means that an increase in the delay of the goods ordered will result to a decrease in repeat purchase as shown in table 4.3 below;
Table 4.3 correlation between customer satisfaction and inventory management

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson R</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction and delay in ordering</td>
<td>-.718</td>
<td>0.009</td>
</tr>
<tr>
<td>Not satisfied and delays in ordering</td>
<td>.652</td>
<td>0.022</td>
</tr>
<tr>
<td>Customer loyalty and delays in ordering</td>
<td>-.610</td>
<td>0.035</td>
</tr>
<tr>
<td>Repeat purchases and delays in ordering</td>
<td>-.627</td>
<td>0.029</td>
</tr>
<tr>
<td>Customer satisfaction and methods of inventory management (EOQ)</td>
<td>.625</td>
<td>0.040</td>
</tr>
</tbody>
</table>

P< 0.05 n=45

Conclusion
The study sought to find out the role of inventory management on customer satisfaction. 73% of the respondents indicated that the company did not determine the inventory levels to hold. This meant that the company was not able to determine how much stocks the company had to meet demand variations. This supports findings by Copco, (2013) who asserted that it is important for companies to define both the maximum and the minimum stock levels to ensure that inventory levels cover demand variations. All the respondents (100%) agreed that the company experienced shortages in terms of inventory. This confirms a study by Knight (2008) that inventory shortages leads to both profit and customer loss.

The study also found out that inventory management was hindered by long lead times which often lead to inventory delays in the organization. Delays in ordering had a strong significant negative relationship with customer satisfaction. This means that an increase in the delay of the goods ordered resulted to a decrease in customer satisfaction. This confirms a study by Starr (2005) which shows that companies can improve and increase customer satisfaction by reducing lead-times of the higher tier customers who contribute significantly to the company’s profits.

Recommendations
Members of the supply chain should ensure that proper records on raw materials, work in progress and finished goods are available in real time and easily accessible. This will prevent reduction in inventory levels which often results to stocks and consequently stock out costs such as idle machine and idle labor. Lack of enough stocks mean that companies are not able to match supply and demand and this greatly affects customer satisfaction and the organizations bottom line (Akiva, 2009). Organizations should also strive to reduce the lead times between ordering and receipt. This can be enhanced through proper inventory management information sharing and collaboration with the suppliers so that goods are in the organization when they are needed to avoid stock outs as well as stock holding costs.
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