Inventory Management

and Its Effects on Customer Satisfaction

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Abstract: *This study examines how inventory management puts positive impact on customer satisfaction and how easily we can check the performance. It also helps retailers to put their inventories in proper order which tells them about demand and supply of their inventories. Proper inventory management system reduces the risk of short of inventories which reduce the cost of lost customers. The objective of the study is to minimize the risk of dissatisfaction of customers and found how to sustain customer satisfaction with the help of proper inventories system. This paper also outlines significant relationship between Customer needs, Quality with vari-*

able of prime interest. Poor association has been found between performance and customer satisfaction.

Keywords: *Inventory Management, Customer Satisfaction, KFC Company.*

Introduction

Customer satisfaction entirely depends on the effective supply chain management which is not an easy task. In past companies used to hold large inventories to avoid shortage of inventories and to increase the customer satisfaction however it has been observed that this "satisfaction" is subjective to person to person, though effective inventory management is the only way to increase customer satisfaction. This inventory caused manufacturers to stockpile large amounts of raw materials, work in process, and finished goods. The extra finished goods would be to protect them from going out of stock.

Large inventories are not the preferred choice to handle the shortage for big companies. As we know that large inventory incurs three different types of costs i.e. holding costs, when the inventory comprises of raw materials; work in process, or finished goods. The inventory cost, is the range of 20 to 40 percent of annual inventory in rupees. Another variables associated with the holding cost is the opportunity cost, which comprises of any increase in rents due to the need for more space for inventory, higher rates for insuring the inventory, and the cost of goods that are outdated.

Atkinson said that manufacturers and retailers can incorporate technology to assist in the managing of this inventory, which is later on used by almost all the multinational companies. This inventory management system uses strong applications of good forecasting techniques with effective incoming and outing inventories. These systems make the inventory management more effective and efficient. According to retail historian, Robert Spector, a critical factor for retailers is that they have to have a good inventory system. If the retailer does not have a good inventory system, they will not be able to forecast demands with any kind of accuracy. This might result in them running out of stock every so often (Levinson, 2005).

The study of customer satisfaction has shown that there could be a disproportional relationship between cause and effect, or between a factor and its consequence on the organization. For instance, a five percent increase in loyalty can increase profits by 25 to 85 percent (Cacioappo, 2000). Loyal customers are six times more likely to repurchase or recommend the purchase of the product or service to someone else. Studies have shown that on average, four percent of the customers will be dissatisfied or complain about the product and/or service. Edward Marien, director of supply chain management at the University of Wisconsin, defines "perfect order" as when a customer finds the right product, destination, condition, documentation, and cost.

The primary objective of this paper is to study the impact of selected inventory parameters and management techniques on the performance of an expanded and comprehensive retail supply chain and to relate them with the customer satisfaction. Generally we will try to assess the company's inventory management system and then we will relate it to the customer satisfaction by concentrating on certain variables. We then study the sensitivity of supply chain performance to three inventory planning parameters: Performance Measurement, Customer needs Technology and Quality.

The main reason for this research paper is to see how inventory management can be improved to produce the perfect order. In other words, how can inventory management be improved to produce customer satisfaction? We discussed earlier that this satisfaction cannot be measured because of its subjective nature. However in our research we will try our best to give the possible findings and recommendations.

For this purpose we used the leading multinational company of fast food in Pakistan, KFC (Kentucky Fried Chicken). We carried out different surveys and questioners to find out the inventory management process and the customer satisfaction. Organizations like KFC use modern inventory management processes to utilize new and more refined techniques. These techniques help to optimize inventories, which decrease inventory and lower costs, and maximize customer service.

Problem Statement

The problem statement of our research is "how the effective inventory management can effect the customer satisfaction". This study examines the relationship between effective inventory management and customer satisfaction with the goal of having complete orders and on time deliveries. This research's purpose is to find ways to improve inventory management, thereby increasing customer satisfaction. Lee and Kleiner (2001) stated that in order to manage inventory management successfully, "retailers should understand customer needs, vendor partnerships, technology, data integrity, and performance measurements"

Literature Review

Inventory control goes back further than writing there were simpler inscriptions in Egyptian and Babylonian warehouses and granaries, with pictures that represented the inventory owner and numbers representing amounts in stock and taxes due.

In the earliest days of shop keeping, merchants wrote down purchases, or they looked at how many units were gone at the day's end and then did their best to forecast future needs. Experience and intuition were key skills, but it remained an inexact method, even when applied to operations that were quite small by today's standards.

After the Industrial Revolution, efficiency and mass production became the main goals of businesses, along with an improved customer experience at the point of sale. A team at Harvard University designed the first modern check-out system in the early 1930s. It used punch cards that corresponded with catalog items. A computer would read the punch cards and pass the information to the storeroom, which would then bring the item up front to the waiting customer. Because of the automated system, the machines could also generate billing records and manage inventory. The system proved to be too expensive to use, but a version of it is in use today in some stores, where merchants place cards with product information on the aisle for customers to select and bring to the checkout line. This usually applies to items that are expensive or large and to controlled items, such as medicines.

Merchants knew they needed a better system, and researchers created the forerunner of the modern bar-coding system in the late 1940s and early 1950s. It used ultraviolet light-sensitive ink and a reader to mark items for sale. Again, the system was too cumbersome and lacked the computing power needed to make it work. Technology had yet to catch up with their ideas. The development of affordable laser technology in the 1960s revived the concept. Lasers allowed smaller, faster and cheaper readers or scanners. The modern bar code, or the Universal Product Code (UPC), was born and caught on just before the 1970s. As computing power became better, the power of UPC codes to help track and manage inventory improved exponentially.

During the mid to late 1990s, retailers began implementing modern inventory management systems, made possible in large part by advances in computer and software technology. The systems work in a circular process, from purchase tracking to inventory monitoring to re-ordering and back around again. Another popular means of automated inventory control is vendor-managed inventory. In this arrangement, the vendor is responsible for keeping its products stocked on a store's shelf. The vendor and retailer work closely together and share proprietary information.

This system also has many advantages for vendors. It allows them to ensure their products are properly displayed and available, and it also puts them in close contact with the retailer and its sales data. The feedback the vendor receives can play an important role in its marketing, research and development. The urge to make the flow of goods and services more efficient is perhaps identical with the urge of civilization itself. The world's earliest known writing (-5300 years) described inventory owners, amounts, and suppliers (Dr. Gunter Dreyer of the German Institute of Archaeology).

Inventory management systems are designed to monitor product availability, determine purchasing schedules and cycle out obsolete or unsold product. The availability of product is just one way in which an inventory management system attempts to create customer satisfaction. A comprehensive understanding of the impact of inventory control on customer satisfaction helps you to create an effective inventory management system.

Time to Fulfillment

Good inventory control means that your time to fulfill orders stays low. If you use your inventory management system to analyze product sales, you can have your popular items in stock and ready to instantly fulfill any customer's order. You also know which special orders sell on occasion and have those products available in a limited quantity to keep your inventory costs down and to develop a positive reputation for quickly filling special orders.

Inventory management helps you maintain customer satisfaction when it comes to product returns. When product is returned because it is damaged or dead on arrival, and it is still under warranty, you can arrange with the manufacturer to do an instant swap of the product to keep the customer happy. If you are the manufacturer, then you should maintain extra inventory levels that mirror your return rates to help maintain customer satisfaction.

Pricing

When you have a well-designed inventory management system, you are able to reduce the amount of time that products sit on your shelves. When you don't carry extra inventory for extended periods of time, your inventory costs decrease. This is a savings that you can pass on to clients in the form of lower pricing.

In Stock

A good inventory management system means that you have an up to date inventory count at all times. Part of giving good customer service is giving accurate information even if the customer does not plan on making a purchase that day. By being able to give clients accurate inventory information, you improve the image of your company and add one more element to customer retention.

Methodology

In this research paper we use two methods Questionnaires and interviews to measure the satisfaction level of customers and inventory management system of KFC. Questionnaire is based on the personal preferences of customers which help us to know that how much they are satisfied with KFC products and what the importance of their products in their life are and how often they visit at their outlets. Through questionnaires we came to know that how KFC can bring continuous improvement in their products and services.

To analyze the inventory management system of KFC we conducted unstructured interviews. This unstructured interview was based on the management of inventories. How employees of KFC manage their inventories to fulfill the demand of the customers. Consumer satisfaction can be explored by using customer satisfaction performance surveys. The type of survey has to be qualitative, because it is difficult to use quantitative research methods for customer satisfaction. Open ended questions help to discover if there is any other issue that may be causing problems with customer satisfaction. The customer satisfaction can be analyzed by a customer satisfaction

Variables

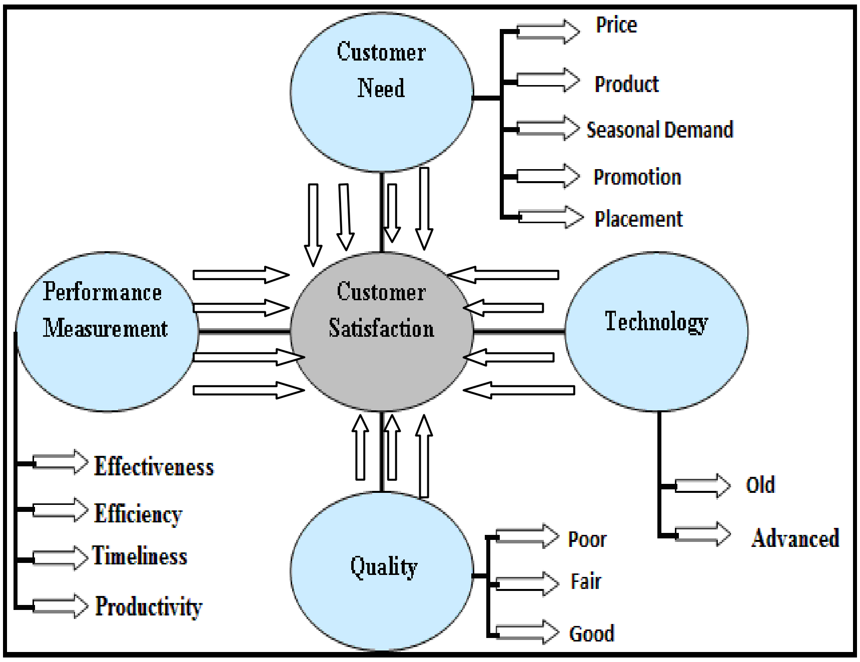
The study contains the explanatory variables namely, Customer Need (To analyze the market situation and customer needs), Technology (Use of latest technology), Performance Measurement (To measure the performance of inventory), and Quality (Which type of quality customers want). The customer satisfaction is the used as the explained variable.

Theoretical Framework

The theoretical framework is explained with the help of following figure.

Survey and questionnaire

The measurement of customer satisfaction will not be exact because it is subjective and in a non-quantitative state, but it will require sampling and statistical analysis (KFC, 2012).



According to "Johnson and Onwuegbuzie" (2004), researchers can also use a mix of the qualitative and quantitative method to increase the strength of a study, and to provide stronger evidence through convergence and collaboration, but this one does not allow for that because of reasons already advanced. This study has utilized mean to measure the impact of predators on criterion. Greater mean indicates strong impact of independent variables to dependents according to sample data

Findings

This study has employed questionnaires and interviews to tape the impacts of independent variables. It enabled to have in depth analysis of customer expectation and requirements. Questionnaires are based on likert scale: A) Strongly disagree, B) Disagree, C) Neutral, D) Agree and E) Strongly agree. A=0%, B=25%, C=50%, D=75, E=100%.

Table 1: Customer satisfaction results:

Independent variables	Mean
Customer needs	87%
Performance measurement	63%
Quality	76%

The questionnaires were distributed among 237 customers in Islamabad. Results outline/depict that the efficient and effective management of inventories leads towards higher satisfaction level in customers.

According to the responses we can conclude that customers needs play key role in shaping customer satisfaction. 87% of the respondents considered customers need are to be addressed while setting any inventory management system. Respondents were sensitive regarding price, promotion, product, seasonal demand and placement. Results indicates if products are according to customer needs and wants, reasonable price and provided on convenient places must be considered.

Performance measurement has a poor relationship with inventory management according to the sample results. It has been graded as 63% showing neutral response by respondents. Although performance measurement individually has a poor relationship with customer satisfaction but it integrated with customer needs and quality have reasonable impact.

According to the results of questionnaires and interviews 76% respondents considered it a significant dimension that brings variation in the level of customer satisfaction. A result also indicates that their menus have desired quality products listed on them. As 76% should be more than 90% to have strongly satisfied customer based via quality. They may increase their product lines to have better quality perception among customers.

Customer needs and quality has a strong link with inventory management while performance measurement has poor or no link with inventory management according to the results of study conducted.

Recommendation

Based on the study, the following are the recommendations for future implication.

1. They should develop such prices systems that are reasonable and affordable for average class and below average class.
2. They should provide the home delivery system improve the satisfaction level of customers.
3. They should add some more products in their menu list.

Limitation and future prospects

Time period was short so limited but reasonable sample was drawn, results can not be generalized worldwide. Researchers and scholars may conduct research under different cultural and demographic conditions. Data integrity and technology may be used in future studies by other researchers.

Conclusions

The primary objective of this paper was to study the impact of customer satisfaction parameters and inventory management techniques on the performance of an expanded and comprehensive supply chain. Specifically, we tested the impact of three important Customer satisfaction parameters which are customer needs, performance measurement and quality on the customer satisfaction. The results indicate that all the three parameters have a significant effect on Customer satisfaction.

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