

Challenges in the Application of Various Inventory Control Techniques Among Supermarkets in Nairobi

Lydia Wangui Ngubia

Received: January 30, 2018

Accepted: February 14, 2018

Abstract

Supermarkets in Nairobi hold large volumes of inventory. This is likely to lead to high carrying costs and high levels of obsolescence. On the other hand if they maintain low levels of inventory, this can lead to stock outs which will result to loss of goodwill and translate to lost sales. Overstocking has the consequences of having dead stock or the stock becoming obsolete while under stocking leads to frequent stock outs of essential items. It is therefore a challenge for the managers of the supermarkets to maintain an optimum inventory level in their stores. This study therefore sought to establish the challenges experienced by supermarkets in Nairobi in the application of various inventory control techniques. To achieve this, primary data was collected through a questionnaire. The questionnaire was administered to 50 supermarkets in Nairobi. Data was received from 39 supermarkets. The respondents generally pointed out a number of challenges regarding the application of the respective inventory control techniques. EPOS registered the highest number of challenges mainly because it was also the most widely used. The main challenge of applying the EPOS technique was that it was expensive to install and maintain. FIFO was also quoted as not applicable to all types of inventory and not accurate in predicting reorder levels. Similar sentiments were also raised in respect of the minimum stock level technique, batch control, periodic review and just-in-time inventory control techniques. EOQ was quoted as not easy to learn and that it was expensive to install and maintain.

Key Words: Inventory, Inventory Control

I.INTRODUCTION

Though supermarkets are known to have systems of inventory control it appears that they are not very successful in their quest for maintaining an optimum level of inventory. This is because problems such as stock outs and obsolescence are still observed in these supermarkets. This is the reason why I am seeking to establish the extent of the application of the inventory control techniques by major supermarkets in Nairobi.

The main benefits of inventory control according to Brooking et al (1995) include the following: It reduces the inventory cost and provides detailed reports for inventory management; It provides flexibility to suit individual needs of customers which can then be met hence promoting customer loyalty; It strengthens the relationship with the supplier by becoming an on-going partner in the supplier's profitability improvement and demonstrating that product price is only part of the cost of doing business with a supplier. Chopra et al (2001), in their study on supply chain management, highlighted that the main shortcoming of inventory control is the over reliance on a preferred technique so that this brings about rigidity in application. The study states that most firms will apply a certain technique even when it is not the best as a matter of policy.

According to Taylor (1997), successful inventory management involves balancing the costs of inventory with the benefits of inventory. Many small business owners fail to appreciate fully the true costs of carrying inventory, which include not only direct costs of storage, insurance and taxes, but also the cost of money tied up in inventory. This fine line between keeping too much inventory and not enough is not the manager's only concern. Others include: Maintaining a wide assortment of stock, but not spreading the rapidly moving ones

too thin; increasing inventory turnover without sacrificing the service level; keeping stock low but not sacrificing service or performance; obtaining lower prices by making volume purchases but not ending up with slow-moving inventory; and having an adequate inventory on hand but not getting caught with obsolete items.

In Kenya supermarkets grew from a tiny niche at the start of the 1990s to 20% of the urban food retail sector by 2005. While the supermarket as a concept is not new to Kenya the first supermarkets arose in the 1960s, their rapid growth is a very recent phenomenon, having taken off since the mid-1990s. Self-service stores in general and supermarkets in particular have popped-up all over the country with the count standing at around 220 supermarkets by 2005. The two clear market leaders as per the time of the study were Uchumi and Nakumatt. The key findings of the study was; supermarkets are growing at rate of 18% per year, supermarkets in Kenya have grown from a niche in the mid-1990s to 20% of the urban food market and supermarkets have spread from the capital to intermediate and small towns, with 44% of supermarket sales and 58% of supermarket stores located outside of Nairobi by 2003. (Neven and Readon, 2005).

II.RESEARCH OBJECTIVE

To establish the challenges faced in the application of various inventory control techniques among supermarkets in Nairobi.

III.RESEARCH QUESTION

What are the challenges faced in the application of various inventory control techniques among supermarkets in Nairobi?

IV.LITERATURE REVIEW

Ballou (2005) states that there are two main reasons for carrying inventory, which are to improve customer service and to reduce costs. Inventories provide a level of product or service availability which, when located in proximity of the customer, can meet a high customer service requirement. In addition the study states that there are five main reasons that inventories can reduce overall cost. The first is economies of size in the production runs because carrying an inventory will allow longer, larger, and more level production runs. Second, firms may purchase in larger quantities seeing an economy in purchasing and transportation. Third, firms may purchase greater quantities at the current price if the product price is anticipated to rise. Fourth, inventories can be used to buffer the variability and shocks in the marketplace. The fifth reason is that inventories can help hold a buffer stock to help against natural disasters.

According to Osowski (2004), though supermarkets may be trying to manage their inventory, they don't seem successful in their efforts to maintain a proper balance that will ensure they don't hold too much inventory so that their carrying costs do not escalate or they don't hold too little inventory so that it leads to stock outs. Tersine R and Tersine M (1994), argued that inventory by nature is idle and wasteful and for this reason is an encumbrance on the operations and finances of an organization. Their denouncements of both intentional and negligent stockpiling inspire reform and herald the redesign of operating systems along effective lines.

Supermarkets can be more competitive if they are able to manage their inventory costs efficiently. This is because proper cost management will reduce operating cost thus increasing profitability (Mattson (2007)). Studies that have been conducted to establish inventory management in supermarkets in other countries indicate that the use of information technology can help reduce inventory costs significantly. According to Taylor (1997) the use of electronic point of sale terminals leads to reduced inventory, increases profit margins and leads to reduced stock outs and lost sales. The study concluded that information technology has helped supermarkets and big retailers in the United States to manage their stores more efficiently leading to reduced costs.

Supermarkets in Nairobi hold large volumes of inventory. This is likely to lead to high carrying costs and high levels of obsolescence. On the other hand if they maintain low levels of inventory, this can lead to stock outs which will result to loss of goodwill and translate to lost sales. Overstocking has the consequences of having dead stock or the stock becoming obsolete while under stocking leads to frequent stock outs of essential items. It is therefore a challenge for the managers of the supermarkets to maintain an optimum inventory level in their stores.

V.RESEARCH METHODOLOGY

The study adopted a survey research design. The target population of this study was drawn from all supermarkets (102) based in Nairobi, as listed in the Yellow pages of the Nation Business Directory (NBD), Nairobi 2010). The study utilized a sample size of 50 supermarkets. A total of 50 questionnaires were delivered to the physical locations of the respondents and 36 questionnaires were found to be complete, which formed the basis of the data analysis in this study. In this context, the response rate for this study was 78% which was considered adequate for data analysis. Data was analyzed using Statistical Package for Social Sciences (SPSS). Frequency analysis was used to establish the frequencies of the variables and establish the challenges that were experienced in the application of various inventory control techniques adopted by the supermarkets.

VI.RESEARCH FINDINGS AND DISCUSSIONS

The study sought to establish the challenges encountered in the application of the various inventory control techniques. The challenges are enumerated in Table 1.

Table 1: Challenges Faced in the Application of Various Inventory Control Techniques

Challenge	EOQ	JIT	MSL	BCT	FIFO	(Q,r)	PRM	EPOS
Not easy to learn	9	2	1	1	1			9
Not tamper proof	3	1	3		2		2	6
Not applicable to all types of inventory	4	7	12	3	21	1	2	1
Not accurate in predicting reorder level	2	3	10	1	16		2	1
Expensive to install system	6	1						19
Expensive to maintain	7					1	1	25
Other challenges enumerated	731	14	26	5	40	2	7	61

The respondents' pointed out a number of challenges with regard to the application of various inventory control techniques. EPOS registered the highest number of challenges mainly because it was the most widely used. FIFO, EOQ, minimum stock level (MSL), just-in-time (JIT), periodic review (PRM), batch (BTC) and the basic (Q,r) model also registered some challenges.

The main concern for EPOS system was that it was expensive to install and maintain the system. The respondents also noted that FIFO was not applicable to all types of inventory and was inaccurate in predicting reorder levels. Similar sentiments were raised regarding the minimum order level technique, batch control, periodic review and just-in-time inventory control techniques. The main challenges observed in application of EOQ were that it was not easy to learn and was also expensive to install and maintain.

VII.CONCLUSION OF THE STUDY

The study concludes that although the EPOS system was the most widely used inventory control technique, supermarkets it is expensive to install and maintain. Additionally, FIFO, minimum order technique, batch control, periodic review, and just-in-time inventory control approaches are not applicable to all types of inventory and not accurate in predicting reorder levels. The main challenge in the application of EOQ was concluded to be it was not easy to learn and was expensive to install and maintain.

VIII.RECOMMENDATIONS OF THE STUDY

Though EPOS was quoted as the most popular inventory control technique, it appears to be expensive to install and maintain. The study therefore recommends that efforts should be made by the government to ensure that information technology is affordable. Even though FIFO was quoted as the second most popular inventory control technique, it is worth noting that it is not applicable to all types of inventory especially non-perishable goods. Hence, the technique is recommended for the fast moving goods, those that waste away quickly and those subject to obsolescence only. The EOQ technique was quoted as being the third most popular technique. The main challenge in its application was that it was not easy to learn. Efforts should therefore be made by training institutions to teach the concept of EOQ and other related concepts in a simplified manner to enhance comprehension and appreciation of the technique.

REFERENCES

- 1) Ballou, R.H. (2005), "Expressing inventory control policy in the turnover curve", *Journal of Business Logistics*, Vol. 26 No. 2, p. 143164.
- 2) Brooking Stanley A., William A. Hailey and Hugh J. Parker (1995) "Evolving production technologies Implications for inventory ordering formulations" *International Journal of Operations & Production Management*, Vol. 15 No. 10, pp. 30-42. © MCB University Press, 0144-357
- 3) Chopra, Sunil, and Meindl, Peter. (2001), "Supply Chain Management." Upper Saddle River, NJ: Prentice Hall.
- 4) Mattsson, S-A. (2007), "Inventory control in environments with short lead times", *International Journal of Physical Distribution & Logistics Management*, Vol. 37 No. 2, pp. 115-30.
- 5) Neven D. and Readon T. (2005) " Supermarkets in Urban Kenya": Kenya supermarket research project Michigan State University, USA.
- 6) Osowski Nicholas Ryan (2004), "inventory valuation decisions and strategy decisions and strategy analysis", MSC thesis North Dakota State University.
- 7) Taylor P (1997) "Information technology; ways to cut costs and win market share" financial times march 13 p 16.

*Challenges Faced in the Application of Various Inventory Control Techniques Among
Supermarkets In Nairobi*

-
- 8) Tersine, R. and Tersine Michele (1994), "Principles of Inventory and Materials Management", Prentice-Hall, Englewood Cliffs, NJ.

How To Cite This Article;

Ngubia, L.W. (2018). Challenges Faced in the Application of Various Inventory Control Techniques by Supermarkets in Nairobi. *International Journal of Business Management and Processes (IJBMP)*, 2(2), 08-12.