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A STUDY OF INVENTORY MANAGEMENT IN WHOLESALE TRADE

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Abstract
In today's highly competitive market, businesses need to focus on improving their inventory management practices enhancing their business operations. Effective inventory management is essential for businesses to achieve several business objectives, including reducing inventory-related costs and risks, improving customer satisfaction, and ensuring timely delivery. This research paper explores the different dimensions of an effective inventory management and its role in enhancing business operations.
Key Words: Inventory Management, EOQ, KPIs, FIFO, LIFO

Introduction

As we move forward, in this ever-growing competitive world, adopting effective inventory management strategies would lead to increased efficiency and profitability in the business world.
Inventory covers a significant amount of a company's total asset, including- raw materials, work-in-progress, and finished goods. Thus, making its proper management directly affect the financial health of any organization in all sectors of the economy. The main aim of inventory management is to ensure that a business is meeting its customers' demands while also minimizing inventory holding costs.
If proper regulations are not put in place to monitor and analyze the inventory, it can lead to economic complications, such as- dead stock, increased cost of maintenance, limited visibility in places such as warehouses, etc. This usually leads to financial backlashes. Sometimes, it is not the absence of inventory management but it is wrong implementation that can lead to such disastrous end results. .
In this research paper, we have not only outlined the best measures for inventory management, but also explored it in further theoretical aspects, including its improper implementation and consequences with proper examples.

Review of literature

(Capkun, V., Hameri, A. P., & Weiss, L.,, 2009). On the Relationship between Inventory and Financial Performance in Manufacturing Companies. In this paper, the relationship between inventory and financial performance in companies from the manufacturing sector. The paper mainly dealt with companies from the US region, the data spanned over 2.5 decades. They explained in depth the significance of the relation between inventory and its components and profitability.
(Philip Kotler, 2000) "Marketing Management (Millennium Edition)" In his groundbreaking work, Kotler examines the role that demand forecasting plays in the overall marketing management process. The concepts that have been put out provide a core understanding of the relationship between consumer demand and inventory planning. While the principles do not entirely focus on inventory, they do focus on the relationship between the two.
(Martin Christopher, 2011) "Logistics and Supply Chain Management" This book written by Christopher explores modern techniques of logistics and supply chain management. It discusses issues

such as risk minimization, lean inventory management, and the incorporation of sustainability factors into inventory decision-making.

(F. Robert Jacobs and Richard B. Chase, 2010) “Operations and Supply Chain Management” This textbook covers a wide range of topics pertaining to operations and supply chain management, including demand forecasting, inventory management, and supply chain coordination, to name a few. It is frequently utilized in academic contexts and provides practitioners with valuable insights that they can put into practice immediately.

(Sunil Chopra, 2008) “Supply Chain Management” This book explains inventory management and places it within the broader framework of supply chain strategy. The book's primary focus is on supply chain management. It investigates methods for efficient coordination between the many components of the supply chain, as well as the part that technology plays in making inventories more visible.

(Pradeep Singh, 2008) Inventory and Working Capital Management: An Empirical Analysis This study was based on the inventory and working capital of IFFCO and NFL. It incurred that IFFCO needs to make improvements in their inventory and NFL should put in more efforts to maintain their inventory.

Objectives

The main objectives that we have focused on are as follows:

1. Identifying different KPIs and their respective influences on inventory management
2. Identifying best techniques involved in inventory management depending on use-case.
3. Highlighting the impact and importance of efficient inventory management
4. Understanding the complications that arise due to improper implementation.

Techniques used in Inventory Management

In the following text, we have discussed some of the inventory management techniques. Each technique has its own advantages as well as drawbacks. For each business, any technique that has been employed must be carefully chosen, such that it benefits the use-case of the situation.

1. ABC Analysis: In this, we rank items present in the stock based on their value and group them in- A (most important items)- usually these items are the highest selling items that return the most profit.
   C (slightly less valued items)
   B (least valued items)
2. FIFO and LIFO: FIFO (First in First Out) is a method of tracking inventory that assumes that the first goods to enter the inventory system are the first goods to be sold. LIFO (Last in First Out) is another method of inventory management that assumes that the last goods to enter the inventory system are the first goods to be sold.
3. Just-in time (JIT): It is a production management strategy used in manufacturing, in which items are produced only as needed, and delivered to the customer as soon as possible.
4. Demand Forecasting: Demand forecasting is the process of estimating the future demand for a product or service based on historical data and other relevant factors.
5. Economic Order Quantity (EOQ): It is a popular inventory management technique used in supply chain management to determine the optimal order quantity for a product based on the cost of inventory and the cost of placing an order.

KPIs influencing Inventory Management

1. Stock to Sales ratio: It is the ratio between the total amount of stocks/goods in an inventory and the number of sales made in each period. It is an indicator for how efficient an inventory is.
2. Lead time: Lead time measures the length of time from the time an order is placed until it is delivered to the customer. Lower lead times can indicate a more efficient supply chain.
3. Inventory Turnover Rate (ITR): ITR measures the number of times inventory is sold and replenished in a specified period. A higher turnover rate indicates a more efficient inventory management system, as the company can sell its inventory faster and place orders more accurately.
4. Average Inventory: It is the average between the maximum and minimum stock level of inventory.
5. Safety Stock: It is defined as the additional quantity of any item in the inventory that is held in case of its shortage.
6. Dead Stock: It is defined as the excessive stock which is no longer useful or needed in the inventory.

Technology in Inventory Management

Integration of technology with inventory management has only increased the results of its efficiency. Software like ERP systems and other inventory management systems have been made available in the market to digitally manage inventory. This not only increases the scope of data that can be stored (in terms of size) but also opens the door for better analysis and visualization of data.

Sometimes, due to improper implementation this can lead to more difficulties, then profits. Below is a small example of one of the biggest sports footwear companies that incurred losses due to poor implementation.

As one of the leading brands in footwear and sportswear, Nike comes with a huge inventory of goods that needs proper management. In the early 2000s they decided to invest in an inventory management software that would help them predict the products that have the most demand. This implementation was due to a huge loss that they had suffered due to poor goods tracking. But due to some bugs and errors in the software that lead to incorrect predictions, they ended up incurring more losses. This case is a leading example of selecting poor quality software and not maintaining it well. While investing in inventory management software was a necessary step, it had not been carried out with proper care.

Research Methodology

The research work has mainly been carried out by analyzing secondary data available on different websites or present in articles. The objective of this research was to understand the proper implementation of inventory management in real-life businesses.

Along with this, a small study was carried out involving wholesale traders to better understand how inventory management can be implemented practically in this use case.

Sample Size

A total of 10 wholesale traders that work for FMCG companies were involved in this study.

Observations

For this study, we had the ten owners from B2B businesses based in Meerut, fill out a questionnaire that could assess the present quality of management and identify the weak points for improvement. Here are few of the observations listed below:

1. An average of 10 workers were employed in each of these wholesale trades.
2. All the businesses had an assigned fixed area for which they had distribution rights for the product.
3. 7 out of the 10 businesses had a rough inventory management system in place. They were recording logs manually.
4. Only 1 was actively using technology (MS Excel) to manage their inventory.
5. None of them had any prior knowledge of techniques or KPIs of inventory management.
6. Their sales were highly dependent on the contract between them and the parent company.
7. Some of the major issues that they faced were- limited visibility of stock, inadequate handling of perishable stock, overstocking or understocking, recording delays or no recordings at all, ordering errors, inadequate transportation capacity or operational issues.

Results and Discussions

The study indicates in wholesale trade, especially when their goods are from an FMCG company, the sales are highly reliant on the legal contract between the two parties. Additionally, this contract is highly inflexible and can be in many cases taken advantage of, on part of the parent supplier company. The only way to increase profits would be through reducing losses due to improper inventory management. A few suggestions for improvement would be-

1. Regular recordings or logs should be maintained for all the trade. Integration of technology could reduce the number of delayed records and make the whole process more systematic.
2. Stocks should be stored in a pre-decided systematic manner (through techniques like ABC analysis) that is easy to keep track of, leading to more visibility of goods in the warehouse and reducing the risks of overstocking or understocking.
3. For perishable goods, techniques like FIFO should be implemented, while for products with long shelf-life, LIFO can be implemented.
4. Demand Forecasting and EOQ should actively be used to predict a more accurate number to help while placing orders.

Conclusion

Effective inventory management is an essential aspect of running a successful business. With rising competition in today's economy, businesses need to find ways to optimize their inventory levels, minimize waste, and improve customer satisfaction. By implementing a well-designed inventory management plan that incorporates data-driven decision-making, businesses can enhance their business operations, reduce their cost of goods sold, increase their customer loyalty, and ultimately improve their financial performance.

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