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Study of Inventory Management Methods and its importance

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Abstract

Inventory management is a critical aspect of business operations that involves overseeing and controlling the flow of goods and materials within a company. It encompasses various methods and strategies aimed at efficiently managing a company's inventory levels to meet customer demand while minimizing costs and maximizing profitability. One of the primary goals of inventory management is to strike a balance between maintaining sufficient stock to meet customer demand and minimizing excess inventory that ties up valuable resources. This balance is crucial because excessive inventory can lead to increased storage costs, risk of obsolescence, and reduced cash flow, while inadequate inventory can result in stockouts, customer dissatisfaction, and lost sales.

Key words: inventory, management, Organizations, techniques etc.

Introduction

A company's inventory is one of its most valuable assets. In retail, manufacturing, food service and other inventory-intensive sectors, a company's inputs and finished products are the core of its business. A shortage of inventory when and where it's needed can be extremely detrimental. At the same time, inventory can be thought of as a liability. A large inventory carries the risk of spoilage, theft, damage or shifts in demand. Inventory must be insured, and if it is not sold in time it may have to be disposed of at clearance prices—or simply destroyed For these reasons, inventory management is important for businesses of any size. Knowing when to restock inventory, what amounts to purchase or produce, what price to pay—as well as when to sell and at what price—can easily become complex decisions.

Definitions:

As per the APICS (American Production and Inventory Control Society) Dictionary,

"*Inventory is defined as those stocks used to support production, such as raw material and work in Process, supporting activities, such as maintenance, repair, and operating supplies, and finally Customer Service in the form of finished goods and spare parts.*"

According to the Author of Operations Management, Lee J. Krajewski,

"*Inventory is created when the receipt of materials, parts, or finished goods exceeds their disbursement; it is depleted when their disbursement exceeds their receipt*."

"*Inventory management refers to the process of ordering, storing and using a company's inventory. This includes the management of raw materials, components and finished products, as well as warehousing and processing such items*."

Inventory Management Methods

Depending on the type of business or product being analyzed, a company will use various inventory management methods. Some of these management methods include just-in-time (JIT) manufacturing, materials requirement planning (MRP), economic order quantity (EOQ), and days sales of inventory (DSI).

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- **Just-in-Time Management:** Just-in-time (JIT) manufacturing originated in Japan in the 1960s and 1970s. Toyota Motor (TM) contributed the most to its development.1 The method allows companies to save significant amounts of money and reduce waste by keeping only the inventory they need to produce and sell products. This approach reduces storage and insurance costs, as well as the cost of liquidating or discarding excess inventory.
- JIT inventory management can be risky. If demand unexpectedly spikes, the manufacturer may not be able to source the inventory it needs to meet that demand, damaging its reputation with customers and driving business toward competitors. Even the smallest delays can be problematic; if a key input does not arrive "just in time," a bottleneck can result.
- **Materials Requirement Planning:** The materials requirement planning (MRP) inventory management method is sales-forecast dependent, meaning that manufacturers must have accurate sales records to enable accurate planning of inventory needs and to communicate those needs with materials suppliers in a timely manner. For example, a ski manufacturer using an MRP inventory system might ensure that materials such as plastic, fiberglass, wood, and aluminum are in stock based on forecasted orders. Inability to accurately forecast sales and plan inventory acquisitions results in a manufacturer's inability to fulfill orders.
- **Economic Order Quantity:** The economic order quantity (EOQ) model is used in inventory management by calculating the number of units a company should add to its inventory with each batch order to reduce the total costs of its inventory while assuming constant consumer demand. The costs of inventory in the model include holding and setup costs.
- The EOQ model seeks to ensure that the right amount of inventory is ordered per batch so a company does not have to make orders too frequently and there is not an excess of inventory sitting on hand. It assumes that there is a trade-off between inventory holding costs and inventory setup costs, and total inventory costs are minimized when both setup costs and holding costs are minimized.
- **Days Sales of Inventory:** Days sales of inventory (DSI) is a financial ratio that indicates the average time in days that a company takes to turn its inventory, including goods that are a work in progress, into sales.
- DSI is also known as the average age of inventory, days inventory outstanding (DIO), days in inventory (DII), days sales in inventory or days inventory and is interpreted in multiple ways. Indicating the liquidity of the inventory, the figure represents how many days a company's current stock of inventory will last. Generally, a lower DSI is preferred as it indicates a shorter duration to clear off the inventory, though the average DSI varies from one industry to another.
- **Qualitative Analysis of Inventory**: There are other methods to analyze inventory. If a company frequently switches its method of inventory accounting without reasonable justification, it is likely its management is trying to paint a

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brighter picture of its business than what is true. The SEC requires public companies to disclose LIFO reserve that can make inventories under LIFO costing comparable to FIFO costing.

Frequent inventory write-offs can indicate a company's issues with selling its finished goods or inventory obsolescence. This can also raise red flags with a company's ability to stay competitive and manufacture products that appeal to consumers going forward.

The importance of inventory management

A retail business is useless without its inventory. And so while it may not be the most exciting subject, inventory management is vitally important to your business's longevity. Good inventory management helps with:

- **Customer experience:** Not having enough stock to fulfil orders you've already taken payment for can be a real negative.
- **Improving cash flow:** Putting cash into too much inventory at once means it's not available for other things – like payroll or marketing.
- **Avoiding shrinkage:** Purchasing too much of the wrong inventory and/or not storing it correctly can lead to it becoming 'dead', spoiled, or stolen.
- **Optimising fulfilment:** Inventory that's put away and stored correctly can be picked, packed and shipped off to customers more quickly and easily.

Inventory management software

An inventory management software or system does all the heavy lifting for a retail business when it comes to its inventory. It tracks inventory additions and subtractions automatically, without relying on manual, paper or spreadsheet processes.

Systems like this are becoming more and more popular among growing businesses as they tackle the challenges of modern multichannel and omnichannel retail.

Choosing an inventory management system that's right for your business can be a tricky process. But here are a few pillar features of good software:

- **Real-time tracking:** Syncs a live inventory figure across all sales channels and warehouses.
- **Forecasting:** Uses past sales data to project estimated inventory requirements into the future.
- **Purchasing:** Helps manage all suppliers and purchase orders for quick and easy stock replenishment.
- **Rules & automations**: Allows creation of inventory rules, e.g. to dictate how much stock shows on each sales channel.
- **Cloud-based:** Accessed from anywhere with data never being overwritten by team members making changes.

Conclusion

Inventory is considered an asset, and as such is recorded on a company's balance sheet. Developing an accurate valuation for the balance sheet requires either a physical

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inventory count to determine the quantities on hand or an ongoing inventory system that creates an accurate record of each inventory-related transaction. An inventory management system helps tackle the challenge of assuring the right level of inventory is in the right place at the right time. The spectrum of inventory management techniques ranges from the fully an alog manual paper ledger that's been used for hundreds of years all the way to the latest smart system that tracks products autonomously. There are still a surprising number of larger companies that manage inventory through an ad hoc collection of spreadsheets and legacy applications that simply don't communicate with each other.

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