

Inventory Management Process: What Is It and How The Flow Can Be Optimized



KEY TAKEAWAYS

- Effective inventory management ensures the right stock is available at the right time, balancing costs while preventing stockouts and overstocking.
- Techniques like demand forecasting, JIT, and automation help optimize inventory flow and improve operational efficiency.
- Leveraging technology, data analytics, and strong supplier collaboration is key to reducing costs and maintaining accurate, scalable inventory operations.

Effective inventory management is crucial for maintaining operational efficiency and competitiveness. It refers to the systematic approach to sourcing, storing, and selling inventory—both raw materials and finished goods.

> What Is Inventory Management?



Inventory management is the process of sourcing, storing, tracking, and selling inventory to ensure the right stock is available at the right time and cost.

PLANERGY
BETTER SPEND MANAGEMENT

At its core, it aims to ensure that the right stock is available at the right time, in the right quantities, and at the right cost.

Understanding Inventory Management

Inventory management is a critical component of business that involves multiple parts.

> Core Components Of Inventory Management



PLANERGY
BETTER SPEND MANAGEMENT

Inventory Control and Tracking

This component ensures that businesses always know the quantity of their inventory, its exact location within the warehouse, and its current

status—whether it's in storage, in transit, or on the shelf.

Effective inventory tracking and control prevent scenarios like stockouts or overstocking, which can lead to lost sales or increased holding costs.

For example, a grocery store chain may use barcode scanning technology to keep an up-to-date record of each product in their inventory.

This allows the store to quickly identify which items are running low and need to be reordered, thereby maintaining optimal stock levels and ensuring customer satisfaction.

Demand Forecasting

Demand forecasting involves anticipating customer demand to make informed decisions about inventory purchases.

By analyzing past sales data, market trends, and seasonal patterns, businesses can predict future demand and adjust their inventory levels accordingly.

This proactive approach helps companies avoid the pitfalls of overstocking or stockouts, optimizing their inventory investment.

Consider a toy manufacturer preparing for the holiday season. By leveraging demand forecasting techniques, the manufacturer can predict which toys will be in high demand and adjust production schedules to meet this anticipated increase.

This ensures they have sufficient stock to capitalize on sales opportunities without the risk of excess inventory post-holiday season.

Supply Chain Management

Supply chain management is the strategic coordination of business processes to ensure the timely and efficient procurement of goods.

This involves managing relationships with suppliers, overseeing logistics, and ensuring that the production process runs smoothly from start to finish.

Effective supply chain management is vital for reducing lead times, controlling

costs, and maintaining a steady inventory flow.

An electronics retailer, for instance, relies heavily on supply chain management to receive the latest gadgets as soon as they are released.

By working closely with suppliers and logistics partners, the retailer can ensure that new products are stocked quickly, allowing them to meet customer demand and stay competitive.

Types of Inventory Management

> Types Of Inventory



Raw Materials



Finished Goods



Work-In-Progress (WIP)



Maintenance, Repair,
And Operations (MRO)

PLANERGY
BETTER SPEND MANAGEMENT

Raw Materials

Raw materials are the basic inputs used to produce goods. They are natural or semi-processed materials transformed into finished products through manufacturing processes.

Managing raw material inventory is crucial, as it directly impacts production schedules and cost efficiency.

For example, consider a furniture manufacturer who needs a consistent supply of wood and fabric.

Any disruption in these raw materials can halt production lines, leading to delays and potential revenue loss. By maintaining optimal levels of raw materials and securing reliable suppliers, businesses can ensure a smooth production process.

Work-in-Progress (WIP)

Work-in-progress (WIP) refers to items currently in production but not yet complete. This type of inventory includes all the components assembled or manufactured into final products.

Efficient management of WIP inventory is vital to maintaining production flow and minimizing bottlenecks in the manufacturing process.

Consider a car assembly plant where various parts, such as engines, frames, and interiors, are assembled into complete vehicles.

Tracking WIP inventory ensures all components are available at the right production stage, preventing costly delays and optimizing resource use.

Finished Goods

Finished goods are fully manufactured and ready for sale to customers. This type of inventory represents the final output of the production process, stored until it is sold or shipped to customers.

Managing finished goods is essential for meeting customer demand and maintaining cash flow.

For instance, an electronics company might have a warehouse full of completed smartphones awaiting distribution to retailers.

Ensuring that these finished goods are stored efficiently and shipped promptly is crucial for meeting delivery schedules and maximizing sales opportunities.

Maintenance, Repair, and Operations (MRO)

Maintenance, repair, and operations (MRO) inventory includes supplies needed to keep production and business operations running smoothly.

These items are not directly part of the final product but are essential for maintaining equipment, ensuring safety, and supporting day-to-day operations.

A manufacturing plant might stockpile spare parts, lubricants, and cleaning supplies as part of its MRO inventory.

If machinery breaks down, having the necessary MRO supplies on hand allows quick repairs, minimizing downtime and maintaining productivity levels.

Inventory Management Techniques

> Inventory Management Techniques



Just-In-Time (JIT)



Economic Order Quantity (EOQ)



ABC Analysis



First In, First Out (FIFO)

PLANERGY
BETTER SPEND MANAGEMENT

Just-in-Time (JIT)

JIT is a highly effective inventory strategy that aligns raw-material orders from suppliers directly with production schedules.

This approach ensures that companies receive goods only as needed for production, significantly reducing inventory holding costs and minimizing waste.

The primary goal of JIT is to improve efficiency by lowering the amount of inventory held at any given time.

For instance, a car manufacturer using JIT might coordinate with its suppliers to deliver specific components just hours before they are needed on the production line.

This reduces the need for large storage facilities and minimizes the risk of overproduction. By implementing JIT, businesses can free up capital tied in excess inventory, streamline operations, and improve cash flow.

ABC Analysis

ABC Analysis categorizes inventory into three groups based on importance and

value: A, B, and C.

'A' items are the most valuable and require stringent control and monitoring due to their significant impact on overall business performance.

'B' items are moderately valuable and need regular review but not as frequently as 'A' items.

'C' items, being the least valuable, can be managed with simpler controls and less frequent monitoring.

In a retail setting, 'A' items might include high-selling, high-cost products that generate the most revenue, thus demanding tight control.

'B' items could consist of moderate turnover goods, while 'C' items might be low-cost, high-volume products that sell consistently.

By employing ABC Analysis, businesses can prioritize their focus and resources on the most critical inventory, optimize their inventory management processes and ensure they maintain optimal stock levels for key items.

Economic Order Quantity (EOQ)

EOQ is a model used to determine the optimal order quantity that minimizes the total costs associated with inventory management, including holding costs, order costs, and shortage costs.

The EOQ formula helps businesses calculate the most cost-effective quantity to order, balancing the trade-offs between ordering costs and holding costs while keeping sufficient safety stock on hand.

Consider a bookstore aiming to determine how many copies of a bestseller to order without overstocking or risking shortages.

By applying the EOQ model, the bookstore can calculate the ideal order size that minimizes costs associated with ordering and storing those books.

Implementing EOQ allows businesses to achieve cost savings and improve inventory turnover by ordering the right amount of inventory at the right time.

First In First Out (FIFO)

FIFO is an inventory management method where the oldest items are sold or used first.

This approach is particularly beneficial in industries where inventory freshness is crucial, such as food and pharmaceuticals, as it ensures that products with the earliest expiration dates are prioritized, reducing waste and spoilage.

It is the opposite of LIFO, or last in first out.

In practice, FIFO works by organizing stock so that older items are more accessible and removed first when fulfilling orders.

For example, a grocery store using FIFO will stock new milk shipments behind older cartons, encouraging customers to purchase the older stock first.

Similarly, a pharmaceutical company might use FIFO to manage drug inventories, ensuring that medications with shorter shelf lives are distributed before newer stock.

The benefits of FIFO include improved inventory turnover, reduced risk of obsolescence, and enhanced customer experience due to product freshness.

By prioritizing the sale of older inventory, businesses can maintain product quality and minimize losses associated with expired or outdated goods or dead stock.

Common Challenges in Inventory Management

> Common Inventory Management Challenges

- Overstocking And Stockouts
- High Holding Costs
- Inaccurate Inventory Records
- Demand Fluctuations
- Inefficient Supply Chain Coordination

PLANERGY
BETTER SPEND MANAGEMENT

Many challenges can occur when managing inventory.

Overstocking and Stockouts

Overstocking occurs when businesses purchase more inventory than necessary, tying up valuable capital in unsold goods.

This can lead to increased holding costs and potential wastage, especially if the items are perishable.

Conversely, stockouts happen when inventory levels are insufficient to meet customer demand, resulting in missed sales opportunities and dissatisfied customers. Both scenarios can severely impact a business's financial health and reputation.

For example, a clothing retailer that overestimates the demand for winter coats might have excess stock as the season changes, incurring additional costs for storage or discounts to clear inventory.

Conversely, underestimating demand for a trendy item can result in too many out-of-stock items, driving customers to competitors.

Inaccurate Inventory Records

Maintaining accurate inventory records is crucial for effective inventory management. Errors in these records, such as incorrect stock counts or misplaced items, can disrupt the supply chain and lead to financial losses.

Inaccurate records make it difficult to make informed purchasing decisions, leading to overstocking or stockouts.

Imagine a home improvement store that relies on manual inventory tracking. An error in record-keeping could mean the store orders too many boxes of tiles, resulting in overstock, or too few, leading to potential stockouts during a peak renovation season.

Inefficient Supply Chain Coordination

Effective supply chain coordination is essential for ensuring timely procurement and delivery of goods. Poor communication and coordination with suppliers can lead to delays, increased costs, and inefficiencies in the inventory management process.

This challenge often stems from a lack of visibility across the supply chain and misaligned priorities between partners.

Consider an electronics manufacturer that experiences delays in receiving key components due to a lack of coordination with its supplier. This delay can halt production lines, leading to missed deadlines and dissatisfied clients.

High Holding Costs

Holding costs refer to the expenses associated with storing unsold inventory, including warehousing, insurance, and taxes.

These costs can quickly add up, particularly for businesses dealing with large inventory volumes.

High holding costs can eat into profit margins, making it crucial for companies to manage their inventory levels effectively.

For instance, a furniture retailer with a vast warehouse of unsold items may face significant holding costs, reducing their overall profitability.

Demand Fluctuations

Demand fluctuations present challenges in accurately predicting inventory needs. Sudden changes in customer preferences or external economic factors can

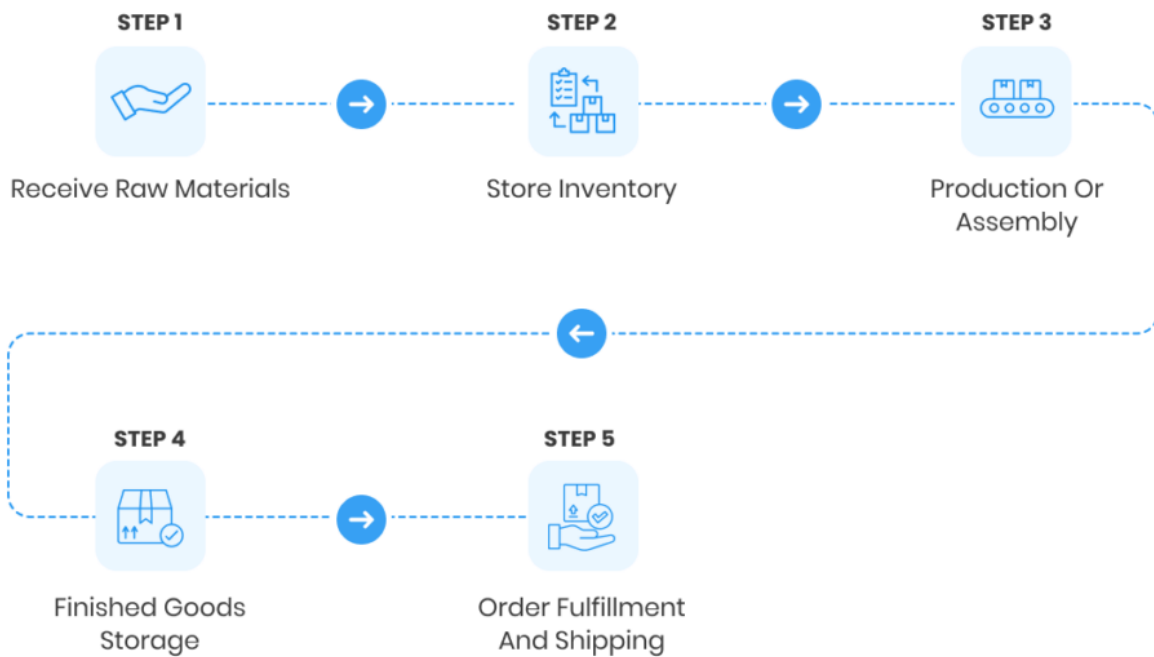
complicate inventory planning, leading to overstocking or stockouts.

Businesses must remain agile to adapt to these changes and mitigate potential impacts on their inventory management processes.

A beverage company, for example, may experience a sudden surge in demand for a new flavor during a hot summer, followed by a rapid decline as consumer interest wanes.

Successfully navigating these demand fluctuations requires robust forecasting and flexible supply chain strategies.

> How Inventory Flows Through The Business



PLANERGY
BETTER SPEND MANAGEMENT

Best Practices and Strategies for Optimizing Inventory Management Flow

> Best Practices For Optimizing Inventory Management



Use Inventory Management Software



Strengthen Supplier Collaboration



Automate Reordering



Perform Regular Inventory Audits



Leverage Real-Time Data And Analytics

PLANERGY
BETTER SPEND MANAGEMENT

Implement Technology Solutions

Inventory Management Software

An inventory management system automates tracking inventory levels, customer orders, sales, and deliveries, giving businesses real-time visibility into their stock.

This technology streamlines operations by reducing manual errors and saving time for staff who would otherwise handle inventory tasks manually.

For instance, a retail chain using inventory management software can efficiently track stock across multiple locations, ensuring that products are available, thereby improving customer satisfaction and reducing lost sales opportunities.

There are plenty of cloud-based systems that integrate with your warehouse management software or ERP to automate as much of the workflow as possible. Some can even integrate with your point-of-sale or POS system to manage everything.

Add Automation Technology

Automated reordering systems help maintain optimal stock levels by automatically generating purchase orders when inventory falls to a

predetermined reorder point.

This ensures that businesses always have sufficient stock to meet demand without overstocking.

For example, a grocery store chain can use automated systems to reorder perishable goods just in time to reduce spoilage and waste, ensuring fresh products for customers while minimizing holding costs.

Real-time Data Analytics and Reporting

Real-time inventory data analytics and reporting provide businesses with insights into inventory patterns and trends, enabling them to make informed, data-driven decisions.

These insights can highlight sales trends, seasonal variations, and inventory turnover rates.

A tech company, for instance, might use analytics to predict demand for new devices, adjusting production schedules accordingly to optimize stock levels and meet customer demand efficiently.

Enhancing Supplier Relationships

Collaborative Demand Forecasting

Collaborative demand forecasting involves suppliers in demand planning to improve accuracy and responsiveness.

By sharing data and insights, businesses and suppliers can work together to proactively anticipate demand fluctuations and adjust supply chains.

For instance, a fashion retailer might engage its fabric suppliers in forecasting discussions to align production schedules with anticipated fashion trends, ensuring timely material availability.

Vendor-Managed Inventory (VMI) Models

Vendor-managed inventory (VMI) models allow suppliers to manage inventory levels based on pre-agreed terms, reducing the administrative burden on businesses.

In this arrangement, suppliers are responsible for maintaining stock levels, which can lead to improved efficiency and reduced stockouts.

A hardware store might use VMI for its fasteners and screws, allowing suppliers to replenish stock as needed, freeing up store staff to focus on customer service and sales.

Regular Audits and Inventory Checks

Regular audits and inventory checks ensure accuracy in inventory records and help identify discrepancies early. These audits help maintain data integrity and prevent issues like shrinkage or misplacement.

A logistics company could schedule quarterly audits to verify inventory counts and reconcile any differences, ensuring that their systems reflect the actual stock on hand and supporting seamless operations.

Pay Close Attention to Your Inventory Turnover Ratio and Inventory Costs

Your inventory turnover ratio evaluates how efficiently you manage your inventory and replenishment.

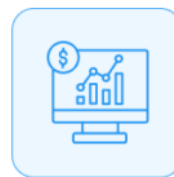
> Measuring Inventory Performance



Inventory
Turnover Ratio



Holding
Costs



Stockout
Rates



Order
Fulfillment
Accuracy

Inventory Turnover Ratio = Cost of Goods Sold (COGS) / Average Inventory

- **Cost of Goods Sold (COGS):** This is the total cost of production of the goods that a company sells during a specific period.
- **Average Inventory:** This is the average inventory level during the same period. It can be calculated as:
Average Inventory} = (Beginning Inventory + Ending Inventory) / total time in the period you're calculating

Step-by-Step Guide

1. **Determine COGS:** Obtain the cost of goods sold from the income statement for your analysis period.
2. **Calculate Average Inventory:** Add the period's beginning and ending inventory levels and divide by 2 to get the average inventory.
3. **Apply the Formula:** Divide the COGS by the average inventory to get the inventory turnover ratio.

Example Calculation

Consider a business with the following data for the year:

- Beginning Inventory: \$50,000
- Ending Inventory: \$70,000
- Cost of Goods Sold (COGS): \$300,000

1. Calculate Average Inventory:

$$\text{Average Inventory} = 50,000 + 70,000/2 = 60,000$$

2. Calculate Inventory Turnover Ratio:

$$\text{Inventory Turnover Ratio} = 300,000/60,000 = 5$$

This result means the business turned over its inventory five times yearly.

Interpreting the Results

An inventory turnover ratio of 5 indicates that the company sells and restocks its inventory five times a year. A higher turnover ratio often means better inventory management and higher sales efficiency.

However, a too high ratio might suggest that the company is not keeping enough inventory in stock, potentially leading to stockouts and missed sales opportunities.

Conversely, a lower ratio could indicate overstocking, which ties up capital and increases storage costs.

Businesses should aim for a balanced inventory turnover ratio that aligns with their industry standards and operational goals to optimize stock levels and resource allocation.

Improve Your Inventory Management Process One Step at a Time

Efficient inventory management is essential for businesses looking to maintain a competitive edge.

Companies can streamline their operations, reduce costs, and improve customer satisfaction by understanding the key components, addressing common challenges, and implementing optimization strategies.

Continuous improvement is vital, and businesses should regularly evaluate their inventory processes to identify opportunities for enhancement.

Now is the time for businesses to take action. Evaluate your current inventory management practices and consider implementing some strategies discussed.

This can optimize your physical inventory flow and set your business up for long-term success. And if you need help, PLANERGY's inventory management software can get you there.

What's your goal today?

1. Use PLANERGY to manage purchasing and accounts payable

We've helped save billions of dollars for our clients through better spend management, process automation in purchasing and finance, and reducing financial risks. To discover how we can help grow your business:

- Read our case studies, client success stories, and testimonials.
- Visit our "Solutions" page to see the areas of your business we can help

improve to see if we're a good fit for each other.

- Learn about us, and our long history of helping companies just like yours.

Book a Live Demo

2. Download our guide “Preparing Your AP Department For The Future”

Download a free copy of our guide to future proofing your accounts payable department. You'll also be subscribed to our email newsletter and notified about new articles or if have something interesting to share.

download a free copy of our guide

3. Learn best practices for purchasing, finance, and more

Browse hundreds of articles, containing an amazing number of useful tools, techniques, and best practices. Many readers tell us they would have paid consultants for the advice in these articles.

Related Posts