



INVENTORY OPTIMISATION LEADS TO SUPPLY CHAIN SUCCESS

Abstract

Modern inventory optimisation is powered by machine learning (ML), data analytics, artificial intelligence (AI), and cloud computing. These technologies use proven inventory management processes for overall optimisation. From matching supply and demand to improving balance sheets and cash flow, inventory optimisation has far-reaching effects on businesses. In this POV, we will discuss the role of inventory optimisation in the success of a supply chain as well as its main elements and more.

What is inventory optimisation?

The practice of inventory optimisation entails meticulous statistics-based calculations to ensure that the shelves are always stocked but not overstocked. Forecasting and efficiently managing existing resources paves the way to addressing demand expectations and more satisfactory deliveries. Recent studies have shown that 79% of logistics companies with high-performing supply chains achieve above-average revenue growth in their respective industries. Their supply chain costs are lower by 15%, they have 50% fewer inventory holdings, and they enjoy three times faster cash-to-cash cycles.^[1]

Inventory optimisation, as the name suggests, is the practice of maximising your inventory and warehousing processes with minimal spending by maintaining ideal stock quantities based on market projections. The process streamlines supply chains while maintaining business liquidity by informing the organisations about how much stock to buy at a given time. This helps the organisations stock in-demand items, which will be readily available to fulfil orders immediately, rather than ending up with shortages and backorders. It helps them avoid overstocking and having excess inventory that drains resources. The only way to accurately predict constantly fluctuating demand is by employing intelligent analytics and ML platforms that evaluate historical order and sales data to identify buying patterns and developing market trends.^[4] Let's take a closer look at the key aspects of an effective inventory optimisation process below^[5]:

1. Demand forecasting: A core aspect of a successful optimisation process is the ability to accurately forecast demand and stock inventory accordingly. These predictions rely on a thorough analysis of inputs from the sales team and historical supply–demand data. Since

market trends are extremely volatile, organisations need to be prepared for a shift in demand, which is invaluable to maintain the smooth functioning of a supply chain. Even technological advances can render products obsolete, so it is important to have a finger on the pulse of the industry to prevent overstocking unsalable inventory and bear related capital losses.^[4]

- 2. Inventory policy:** A well-defined inventory policy helps avoid unnecessary losses due to understocked essential profitable products and an inability to fulfil orders promptly. A sound inventory policy pays special attention to inventory items that are vital to the business and ensures optimal stocks at all times regardless of the changing market conditions.^[4]
- 3. Inventory replenishment plans:** Inventory replenishment or stock replenishment is the process of shifting inventory from the reserve storage to the primary storage and from the primary storage onto the shelves. This process usually is delegated to a warehouse manager or an inventory planner whose primary responsibility is to ensure that the business has enough stock to fulfil orders on time. Replenishment plans are usually based on a detailed demand forecast, and it is up to the inventory team to contact vendors within the supply chain to replenish stocks when necessary.
- 4. Inventory levels:** Maintaining optimum inventory levels involves stocking the ideal quantity of each product, which can greatly affect the bottom line. Overstocking inventory is expensive, while understocking can lead to missed sales opportunities and irate customers. Maintaining ideal levels of inventory enhances overall efficiency

and profitability, as well as contributes to happy, loyal customers.

- 5. Warehousing and storage:** It is imperative that businesses that deal in physical goods optimise their warehousing and inventory storage processes to meet market demand and customer expectations. Efficient storage strategies minimise resource wastage and will vary across businesses depending on sales volume, product traits, and shipping locations.



How businesses can benefit from inventory optimisation?

There are many advantages to having a well-executed inventory optimisation programme in place. The right tools and techniques can help you thoroughly utilise the benefits of inventory optimisation, which include the following benefits^[5]:

- 1. Lower operational costs:** Optimising your inventory streamlines supply chains and has a direct impact on warehousing, storage, and inventory management costs. The most feasible way of cost optimisation is reducing and managing losses. The overheads that make inventory management expensive can be eliminated with proper planning and usage of right tools.
- 2. Happier customers:** Customer satisfaction is an important aspect of any business and fulfilling orders smoothly and swiftly is one way to satisfy them. While simply overstocking can ensure you don't lose sales, it isn't

very efficient. Instead, by optimising inventory, you can be prepared for a spike in demand and have a clear idea of where and when you will need certain products in stock. Being strategically placed with insights into fluctuating demand allows businesses to always meet demand while avoiding unnecessary warehousing and storage costs.

- 3. Faster delivery options:** Optimised inventory processes allow you to track the performance of stock keeping unit (SKUs) and product movement across your distribution network. This enables real-time strategic inventory allocation to storage locations that are geographically close to areas where you foresee the most demand for quick and efficient shipping and delivery. Intelligent automated solutions can track fluctuating inventory levels across several warehousing locations and

cross-reference this information with projected market and demand trends to simplify the delivery process.

- 4. A balanced inventory:** Modern inventory management tools allow you to track SKUs across the supply chain, giving you the ability to react swiftly to evolving buying trends and meet fluctuating demand. Inventory optimisation leads to a balanced inventory, so that stocks always reflect the prevailing demand. A balanced inventory also improves cash flow and optimises your warehousing processes.
- 5. Eliminate overstocking:** Without the necessary tools to properly analyse historical market trends and accurately predict future demand, many businesses find it safer to overstock inventory. However, this results in higher warehousing and inventory carrying costs, as well as deadstock, with heavy losses for an organisation.



Best practices in inventory management

Organisations use several methods for inventory optimisation to derive maximum benefits from their supply chain operations. We have listed a few of the best practices that can contribute to supply chain success.^[5]

- 1. Accurately forecast demand:** Modern technology and techniques accurately forecast demand based on sales insights, which is gained from the analysis of historical order data and is one of the most powerful tools when optimising inventory processes. Most core business decisions rely on accurate data analysis. There's no reason that the needs of forecasting inventory be any different. Data-driven inventory decisions can reduce supply chain costs, prevent over- or understocking, lessen warehousing costs, and keep customers satisfied.
- 2. Maintain safety stock inventory:** It is important to maintain safety stock, also known as buffer inventory, on hand in case of a supply chain issue or an unexpected boost in demand to keep the processes running smoothly.
- 3. Determine accurate reorder points:** Organisations need to know how much minimum inventory, including safety stock, of a particular product is required. You also must be clear on the

right time to reorder. This is determined by accounting for prevalent demand and lead time it takes to replenish stocks so that the warehouses never run out while awaiting fresh inventory. An accurate reorder point also helps ensure that you don't have too much capital tied up in inventory at any time. Incorporating an automated process to keep track of inventory and determining when to reorder each product simplifies the process and saves time.

- 4. Conduct regular inventory audits:** Tracking inventory and stocks can be simplified by carrying out inventory audits regularly. This exercise helps in monitoring and discovering ways to reduce holding costs, including costs related to the warehouse staff, storage, and depreciation. It's impossible to conduct timely and accurate inventory audits without modernising processes and adopting automated inventory management and monitoring tools. These processes provide a detailed overview of all inventory-related facts and figures in a fraction of the time it would take to manually conduct an audit.
- 5. Manage SKU levels:** Using a modern inventory management solution

lets you easily monitor and update products across all distribution networks and channels and keep track of various SKUs in real time. Using modern tools and applications to stay on top of your organisation's inventory situation at all times is a sure-fire way to prevent running out of stock.

- 6. Distribute inventory across several warehouses:** Managing a single, centralised inventory seems simple. However, you can save costs on shipping by storing an optimum number of goods based on demand. Strategically distributing inventory across multiple warehousing locations makes for quicker and more efficient distribution and delivery processes.
- 7. Use a capable inventory management software:** All of the above inventory optimisation methods can be simplified further by using inventory management software that allows you to monitor various inventory and stocking parameters from a single dashboard. Applying available technology to support strategic and operational aspects of an organisation can streamline business processes across the board; inventory, warehousing, and stock management are no different.



Conclusion

The right inventory optimisation solution for your business depends on a number of factors, including the organisation's size, specific goals, and requirements. It is important that your technology service provider takes a consultative approach and delivers a comprehensive portfolio to improve workflows, reduce waste, and increase efficiency.^[3]

*For organisations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed organisational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like a living organism, will be imperative for business excellence going forward. A comprehensive yet modular suite of services is doing exactly that. Equipping organisations with intuitive decision-making automatically at scale, actionable insights based on real-time solutions, anytime-anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, Live Enterprise is building connected organisations that are innovating collaboratively for the future.

References

1. *The state of supply chain management – Statistics and trends*
2. *Inventory optimisation: Why it matters for your supply chain*
3. *How to optimise your inventory for supply chain success*
4. <https://www.tibco.com/reference-center/what-is-inventory-optimization>
5. <https://www.shipbob.com/inventory-management/inventory-optimization/>



For more information, contact infosysbpm@infosys.com

Infosys[®]
Navigate your next

© 2022 Infosys Limited, Bengaluru, India. All Rights Reserved. Infosys believes the information in this document is accurate as of its publication date; such information is subject to change without notice. Infosys acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. Except as expressly permitted, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior permission of Infosys Limited and/ or any named intellectual property rights holders under this document.