# Supply Chain Forecasting

**POWERED BY AI**

Inventory management is a core capability for all organisations that purchase or manufacture and sell stock items. It is a trade-off between customer service and cost control. Low inventory quantities require less working capital, but stockouts can result in missed sale opportunities. By accurately forecasting future sales and inventory values, organisations can optimise their stock quantities to manage the balance between sales and costs.

Utilising an automated process, stock replenishment requests in the form of purchase orders to supplier can ensure ideal orders are placed at the right time, with the right suppliers for the right quantities of products and raw materials.

Customers will tolerate delays in processing orders to an extent, but beyond a limit will drift towards other organisations who can supply products when required.

Stock obsolescence, wastage and mispriced items can destroy profitability for any organisation. Accurate reports based on comprehensive data sets are imperative for any effective management of inventory to maximise profits and ensure a high standard of customer satisfaction.

However, accounting and ERP systems often have a variety of capabilities in this complex yet important area of inventory management. Complexities exist around pricing and costing models, as well as attempting to predict future item quantities and demand.

*Clearly more sophisticated models are necessary.*

Artificial intelligence provides a solution to highly complex systems, where machine learning algorithms can process enormous quantities of data within complicated and intricate systems of supply and demand.

Sales history, economic order quantities, seasonality and reliability of supply can all impact on purchase decisions for replenishment of stock items. It's an unbelievably complicated issue that many systems fall short of applying the rigour required to model appropriate scenarios to arrive at optimum decisions in real time.

## Sales Forecasts

An important contributor to an effective balance of stock on hand for sales versus costly overstocked shelves, is an accurate prediction of future demand. Forecasting future demand for products is an incredibly complex undertaking involving many data points across large data sets of transactions.

Many interrelated factors can influence the likelihood of future orders arriving, including pricing strategies, discount methodologies, historical sales, item obsolesce, product substitutions and changing customer perceptions.

**365 ARCHITECHS**

Machine learning models have the capability to ingest large quantities of information, test their predictions against actual events, and adjust to improve the accuracy of their predictions over time.

## Inventory Forecasts

Sales forecasts, together with production forecasts and purchase orders with supplier performance can be used to generate inventory forecasts at future time periods. Complex models can be used to predict future stockouts and generate appropriate orders to minimise the likelihood of lost sales due to the unavailability of items as and when they are required by customers.

Artificial intelligence powered by machine learning again provides a solution to automatically ingesting huge amounts of data and continually refining analytical models based on experience to arrive at highly accurate forecasts and predictions beyond the capability of traditional systems and processes.

# *Business Central and Supply Chain Forecasting*

The Microsoft accounting software for small and medium organisations, Business Central, provides for a comprehensive suite of machine learning models to accurately predict future sales transactions and inventory quantities to optimise the stock/working capital balance.

Gain visibility of current stock quantities by location easily, using the in-built reports and custom dashboards available within Business Central.

Utilise advanced reporting and automated order placement within the software using predictive models that incorporate artificial intelligence machine learning models to accurately predict future events.

Business Central is more than small business accounting software.

It provides the tools to effectively manage your business, inclusive of strong predictive tools to optimise stock levels to balance costs with customer expectations.

Make smart decisions about future stock levels and replenishment orders through the artificial intelligence-powered capabilities of a modern ERP solution such as Microsoft Dynamics Business Central.