e2open®

E2open Freshness: Inventory Planning for Products With a Limited Shelf Life

Managing inventory for products with a limited shelf life such as food, pharmaceuticals, electronics, and fashion apparel requires an extra level of effort to minimize the high costs of spoilage, expiration, and obsolescence. E2open® Multi-Echelon Inventory Optimization includes specialized freshness capabilities that enable planners to control costs by setting maximum inventory levels to meet freshness targets.

Maximum and Minimum Inventory Targets

Inventory optimization solutions usually focus on defining the minimum inventory levels needed to meet service targets. This approach works well for products with a long shelf life but may result in excessive inventory for limited shelf-life items. This leads to waste from spoilage and expired goods, as well as deep discounting for obsolete products. The risk is more significant when minimum production runs and replenishment quantities are large.

E2open's freshness capabilities enable manufacturers to minimize waste and obsolescence. By statistically determining time-phased maximum inventory levels by product and location, planners can save time, money and effort.

Freshness Targets for Controlling Potential Waste

To determine maximum inventory levels, the system prompts users to define a freshness target, which is the desired portion of product volume that meets customer shelf-life requirements. For example, if the target is 99.5%, that volume percentage will likely be sold, while 0.5% will likely be disposed of or deeply discounted. A small portion, such as 0.5% in the example, is always projected to be discarded or discounted to account for the possibility of lower-than-expected demand.

The user-dictated freshness target drives the statistical calculation of maximum inventory, which also takes into account demand volatility, total shelf life, customer shelf-life requirements and other supply chain parameters. Freshness targets and maximum inventory levels help companies reliably control the cost of waste and obsolescence.

Key Features

- Time-phased maximum inventory levels by product and location
- Ability to set freshness targets to drive the calculation of maximum stock levels
- Respect for customer shelf-life requirements
- Control of end-of-season and end-of-life inventory levels

Key Benefits

- Less spoilage and waste
- Reduction in price-protection claims, rebates and returns
- Decrease in deep discounting of obsolete goods
- Lower inventory costs

Respect for Customer Shelf-Life Requirements

Manufacturers must continually manage inventory levels to minimize waste for products with sell-by or expiration dates such as dairy products, meats, produce, and certain pharmaceuticals. E2open's freshness capabilities use customer shelf-life requirements — the specified number of days remaining before the sell-by or expiration date — to drive maximum inventory calculations. This minimizes the amount of inventory that must be disposed of due to insufficient shelf life.

Control of Inventory at Product Phase-out or End of Season

Short product lifecycles result in short shelf lives for consumer electronics and similar products. Fashion apparel and holiday items have a short shelf life due to seasonality. Such products are subject to price protection claims, rebates, returns, and deep discounting at the time of product phase-out or when inventory remains at the end of a season. By establishing maximum inventory levels, companies can sharply reduce the chance of having excessive leftover stock.

Inventory Plan Evaluation and Handoff for Distribution Requirements Planning

With maximum inventory levels defined, manufacturers can evaluate the feasibility of supply chain plans. Planners are able to identify a high risk of excessive waste or obsolescence by determining if planned total inventory exceeds the recommended maximum. They can then make tradeoffs among freshness targets, service levels, production-run sizes, and replenishment quantities to alleviate potential problems. Maximum inventory may also be used to trigger distribution requirements for planning systems to delay production or replenishment.

Controlling waste and obsolescence saves time and money. Maximum inventory levels based on freshness targets allow companies to manage the impact of spoilage, expiration, and obsolescence and make tradeoffs with service levels, production-run sizes and replenishment quantities.

About e2open

E2open is the connected supply chain software platform that enables the world's largest companies to transform the way they make, move, and sell goods and services. With the broadest cloud-native global platform purpose-built for modern supply chains, e2open connects more than 400,000 manufacturing, logistics, channel, and distribution partners as one multi-enterprise network tracking over 12 billion transactions annually. Our SaaS platform anticipates disruptions and opportunities to help companies improve efficiency, reduce waste, and operate sustainably. Moving as one.™ Learn More: www.e2open.com

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