

Inventory Optimization for Product Rollover

Companies that manufacture short-lifecycle products such as personal computers, mobile telephones, and consumer electronics are often faced with the product end-of-lifecycle dilemma:

Should I build out my existing stock of components for soon-to-be discontinued products, generating finished goods inventory that may be sold at a reduced price?

Or should I merely scrap or sell at steep discount the inventory of components and assemblies that are unique to an end-of-life product?

Or should I do some combination of the two?

The build-out option is further complicated because it often requires the purchase of additional materials and parts, increasing the cost of a potentially risky choice. But "throwing away money" by scrapping obsolete product components is not a pleasant choice for planners either.

This end-of-lifecycle dilemma is an expensive proposition for many companies. In highly competitive businesses with low margins, the costs associated with product rollover and the resulting management decisions can often mean the difference between profit and loss.

Hewlett-Packard Laboratories, HP's research organization, has developed the Inventory Optimization for Product Rollover (IOP) tool that allows product planners to analyze various trade-offs and scenarios for the product end-of-lifecycle dilemma. HP Consulting has created the IOP Service by combining the IOP tool with HP's manufacturing expertise to deliver a unique and valuable supply chain planning solution to HP's clients.

Using proven mathematical optimization technology, the IOP tool quickly evaluates the countless build/scrap combinations and helps planners weigh various financial and business options. HP's manufacturing consultants work with clients to tailor the IOP service and ensure that results meet expectations.

IOP uses business and manufacturing information such as component and assembly stock on hand, finished product

Helping business planners understand and resolve the product end-of-lifecycle dilemma

inventories, component and product costs, and product demand forecasts. This information is analyzed by the IOP tool, resulting in decision recommendations about quantities of products to sell, how much of certain products or components to build, quantities of additional raw materials to purchase, and how much of specific parts to scrap or sell at discount. Product planners are encouraged to use the IOP tool in an ad hoc mode, performing what-if analysis on various rollover scenarios and trade-offs. IOP helps determine the right build-to-stock quantities of products for various demand forecast assumptions. The ultimate goal is to give planners the insight and understanding to confidently make the right set of manufacturing and business decisions.

Hewlett-Packard has proven the IOP tool approach in several of its computer product lines. In short lifecycle products with significant variation in forecast demand and large write-off costs, using the IOP tool has become a critical business process at HP. One division of HP that produces compute servers had annual write-off expenses in excess of \$20 million, a significant fraction of overall profit. The product planners used IOP to substantially reduce these end-of-lifecycle write-off costs.

Customer demand for new products, agile competitors spawned by the global market, and advances in manufacturing technologies are all increasing the effect of the product end-of-lifecycle dilemma, forcing companies to incur the cost and management attention involved in product rollovers. HP's IOP Service helps solve this problem, offering a method for turning a previously expensive and time-consuming business process into a competitive advantage.

