



---

## Margin-based Supply Chain Optimization

Alan Kosansky, president, and Ted Schaefer, director of logistics and SCM, Profit Point  
Thu, 2013-06-20 16:21

To effectively implement margin-based supply chain optimization, it is important to have three key components in place: data, optimization technology and alignment with strategic business objectives.

Margin-based supply chain optimization is a new business process based on two key business priorities: 1) the desire to deliver more high profit products to customers, and 2) the ability to stop serving customers and products with low profit yield. This supply chain decision support process quantitatively shows companies which customers to serve and what products to produce in order to maximize profit and margin. For companies with complex supply chain operations, this is often easier said than done. Recent advances in the availability of data and optimization modeling, however, enable a growing number of companies to implement more efficient and effective supply chain systems.

A company's portfolio of customers and products typically changes more quickly than the assets used to meet the customer demand. These situations include changes in the macro-economic environment that precipitate significant increases or decreases in customer demand, shifts in a company's product portfolio, development of new markets, or changes in the cost to produce and/or deliver products or services. In each scenario, margin-based supply chain optimization is a key tool to help companies manage supply to achieve maximum profitability.

To effectively implement margin-based supply chain optimization, it is important to have three key components in place. They are: data, optimization technology and most importantly, alignment with strategic business objectives.

## Data Supports Margin-based Supply Chain Optimization

Margin-based supply chain optimization requires the ability to both accurately compute the total delivered cost for every product received by a customer and accurately determine the amount of revenue realized from each sale. In the past, capturing these basic financial metrics at the product and customer levels of detail was a challenge. Fortunately, recent advancements in ERP technology have made the data more readily available, leading to widespread adoption of more sophisticated and accurate supply chain systems.

The total delivered cost of a product is the sum of all raw material, manufacturing, distribution,

inventory, and transportation costs incurred to make and deliver the product to the customer's door. Margin-based supply chain optimization is most effective when the true costs for changing these supply chain activities are comprehensively understood. They cannot be based solely on accounting allocations, which often obscure the true supply chain costs at the customer and product levels. Similarly, pricing data at the product and customer levels can also be accessed through the ERP platform. This makes essential information accessible to a broader group of decision-makers across the organization, where previously they were only available to sales and commercial groups.

The increased availability of this data facilitates specific decisions for each customer and product and is the foundation of margin-based supply chain optimization. For example, with the data available in a typical ERP database, companies can easily and accurately estimate each of the following costs: the manufacturing cost of each product in a plant, the cost to move it from the plant to the warehouse, the cost to store the product and ship it from the warehouse, and the cost to deliver the product to a given customer. Subtracting the sum of these costs from the net selling price received from the customer yields a product/customer-specific margin that can be used for decision-making.

## **Optimization Technology Maximizes Asset Utilization**

Understanding the thousands (or millions) of trade-offs a large manufacturer has to consider in determining the customer/production allocation is no small task. This is particularly challenging in companies with either highly utilized assets or highly under-utilized assets.

In the case of highly utilized assets, the critical decision is determining which customers and products to serve and which ones not to serve. Basing this decision on margin analysis for each customer and/or product typically yields more profitable results than traditional approaches that prioritize longtime or high-volume customers are served regardless of the profit margin.

In the case of highly under-utilized assets, decisions to idle capacity or divest assets, and which customers and products to serve with the remaining assets, are the most significant. Too often these decisions are delayed too long, much to the company's detriment. This occurs due to the lack of detailed margin-based analysis that accurately reflects the cost of keeping those assets running. Margin-based analysis quantitatively confirms or rebuts the argument that volume spreads the fixed costs of the plant to yield profit on other products. Empirical data answers the question of whether to sustain the same production volume, or eliminate the fixed costs by walking away from low-margin/high-volume sales.

In both cases, supply chain margin-based analysis can help companies identify the true profit and cost for every product and every customer, making it relatively simple to optimize the supply chain.

## **Aligning Optimization with Strategic Goals**

While profit will not always be the sole driver in deciding which customer relationships to sever or continue to serve, it should always be a key part of the discussion to properly understand the real value of each customer. Other strategic reasons for supplying certain products to specific customers despite a less than desirable profit margin include:

1. The sale of ‘loss leaders’—supplying small, less-profitable products to large customers who generate greater profit in other areas of the product portfolio. For example, the profit margin on cell phones is small, while the profit margin on calling plans is quite high.

2. Making a tradeoff in margin to yield greater volume and thus better utilization of manufacturing assets. To illustrate, an automobile manufacturer might offer a much lower price per car to a large rental car company than to an individual dealer because the large-volume sale lowers the risk of underutilized assets to a larger extent.

While strategic considerations exist, it is important for all customers to attain the profit margin target in total product mix supplied to them. Too often, however, customers with large volumes leverage a price on a product that is neither profitable nor viable. This occurs because of inertia in managing the client or because the value of large customers is over-estimated or unknown. Yet the relationship is viewed as ‘strategic’ and the margin target goes unmet.

It is true that price, cost and profit are not the only factors in customer and product portfolio decisions, but accurate margin analysis that captures the true delivered cost of each pound of material is vital to making sound strategic decisions. This is particularly the case in scenarios where capacity or other supply chain constraints force difficult choices in selecting which customers to supply and how best to source and deliver products to them. Strategic corporate objectives may lead to decisions that are not always the most profitable in the short term in favor of long term success. Accordingly, understanding the related cost to profit, and other lost opportunities, is of paramount importance.

## Accurate Data, Informed Decisions

Data is abundant. Today’s leading companies turn data into usable information daily, analyzing it and basing business-critical commercial and supply chain decisions upon it with increasing rapidity. Margin-based supply chain optimization is the most effective way to bring the hard data of total delivered cost and price to the strategic decision-making table. The process yields high quality information, becoming the lens through which to evaluate, and continuously re-evaluate, the product and customer portfolio in light of limited capital and assets.

Margin-based supply chain optimization can help improve a company’s bottom line by enabling delivery of more of the most profitable products to the right customers. Making this business process a regular component of strategic decision-making can help ensure the optimal customer and product portfolios for corporate longevity and success.

*Alan Kosansky, Ph.D., is president and co-founder of [Profit Point Inc.](#) Ted Schaefer is director of logistics and supply chain management. Profit Point is a provider of supply chain optimization systems, offering such services as infrastructure and supply chain planning, scheduling, distribution and warehouse utilization improvement.*

---

**Source URL:** <http://www.industryweek.com/procurement/margin-based-supply-chain-optimization>