

Tightening the Chain— Supply Chain Cost-cutting Strategies

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Managers are finding creative ways to mitigate supply chain costs while maintaining operational efficiency. New approaches, technologies, and methodologies are aiding with these cost-cutting measures. Use of a *third party logistics provider* (3PL), *radio frequency identification* (RFID) rentals, and attribute-based demand planning can drastically reduce supply chain costs and increase customer satisfaction.

This article will define those strategies, and examine methods of cost reduction within the supply chain.

Definition of a Third Party Logistics Provider

The use of a 3PL has become a cost-effective way for *small to medium businesses* (SMBs) to compete against larger organizations. A 3PL charges for storage, labor, technology, integration, or a combination of these services. This type of model enables a company to operate a virtual warehouse cycle without the physical entity (however, a company that uses a 3PL always owns the inventory being stored). There are several service options that can be incorporated within a 3PL arrangement. The most common business model within this structure is to house, pick, pack, and ship the items through a third party supplier.

Often, 3PLs receive the information from the original vendor, process the order, and drop-ship the products directly to the customer with the original company's packaging and shipping labels. This enables the original company to better compete with larger or more efficient companies within the industry. An SMB can now offer a wide range of products at reasonably lower prices than the large retailers, since a potential advantage is the ability to use an existing infrastructure. Services like storage (especially for controlled food items, pharmaceutical materials, and hazmat, which may all require specific conditions), picking of the products, and integration of the 3PL system into the vendor's own system (for efficient order processing, consolidation, and shipping) are already in place, and can handle the additional services required.

An example of this model is **Amazon.com**. Its Canadian operations are totally handled by a 3PL (**Progistix**), yet it competes with **Indigo Books & Music**. Indigo operates a full warehouse operation and has many brick and mortar stores. This illustrates the success and gains that an efficiently executed 3PL model can bring.

However, an obstacle to consider for the 3PL model is lack of inventory control. The company to whom the inventory belongs has no visibility into the management and execution of fulfillment of product to its customers. The originating company cannot easily track the data generated from the purchase transaction, as this information does not belong to the primary company—which means that it has difficulty in tracking total units sold at a particular time. This causes further planning and procurement headaches, since information is not up to date. Demand planning, sales forecasting, and inventory replenishment are compromised as a result. This disadvantage is usually a determining factor that motivates many companies to keep their supply chains within the organization.

RFID Outsourcing

A volatile and constantly changing RFID market is opening the door to flexibility for SMB manufacturers and retailers. There are several concerns that are addressed through this model: a full RFID implementation may be too cost-prohibitive; the organization may not have the resources to complete a forced mandate pushed down from key suppliers; or suppliers might require compliance in a short time span that means the organization cannot commit to a full RFID implementation. From the resource, cost, and expertise standpoint, this model is useful.

RFID rental companies have gained popularity in the market, as they can offer a whole or partial RFID solution. Companies in the RFID space offer the rentals of tags, interrogators, encoders, and even middleware. Most companies within this market offer consulting on RFID implementations, and can rapidly comply with mandates. Some even offer supplier integration to external trading partners for full supply chain collaboration. The expertise gained through knowledgeable partners can prove very valuable in avoiding common mistakes relating to the implementation. Issues

such as tag placement, inconsistent reads, and data interpretation can be avoided because of the experience the partner will have acquired from past projects. The data integration and aggregation from the RFID system can be interpreted by the partner for corporate consumption, and be formatted correctly for input to the *enterprise resource planning* (ERP) system. The partner will advise the customer on how to manage and further understand the power of the new information.

This model can assist in planning, testing, and invoking a pilot program for the organization. With this option, an organization can also lease equipment and upgrade when new technology becomes available, without going through significant capital expenses. The difficulties with this model must be weighed effectively to achieve maximum gain. There are a few drawbacks to consider if this model is pursued. When selecting an RFID outsourcing solution, always ensure there is an exit strategy built into the contract. If for whatever reason the company needs to change strategy, or to find a more cost effective solution, there should be a way out of the current agreement. This has to be addressed by the vendor receiving the outsourced product or services. It is not usual practice for RFID outsourcers to issue an opt-out clause, so the vendor must specify that there is an equitable way out of the contract should conditions change.

Also, if supply strategy should change, there are many logistics and financial issues to deal with if the RFID component is outsourced. The organization possibly may not have planned for the implications of having these services returned to an in-house process. Implications the organization will have to consider include the acquisition cost of new infrastructure, hardware, and software; integration; compatibility with current systems; and functional and technical resources. Further to this, physical acquisition of warehouse space and labor, and the resources to execute the handling component if products are involved, need to be considered. With each of these tasks, there are several steps involved to execute each procedure, which can consume additional time, resources, and budget if not planned for accordingly.

Attribute-based Demand Planning

The goal of a supply chain is to operate at the least possible dollar amount invested in inventory while maximizing efficiency and adaptability to changing customer demands. An approach to reducing the size of the chain is to reduce the amount of inventory within that chain. Reducing inventory can lead to recovered monies that can be applied to the bottom line. A method of doing this is *attribute-based demand planning*. This is a variation of the *just-in-time* (JIT) methodology for inventory reduction. Attribute-based demand planning is defined as the granular differentiation of product, with additional products or services added to products in order to increase value or to minimize the total inventory carried.

Attribute-based demand planning can achieve several benefits:

Increased selling price (and gross revenue) for specialty products arises from the specific requirements that can be added to the items for specific consumption, location of manufacture, and specifications of raw materials. An example of this is a diamond company. The raw and uncut diamond is the base product that is in inventory. A customer can request a specific cut, such as a box cut. The company will then schedule the resources for this operation (for both labor and machinery) to be completed. With the value-added component of providing a polished box cut stone, the company can charge a higher selling price to the consumer.

Product differentiation is enhanced by allowing substitutes. Granularity for product differentiation can reduce inventory costs by enabling more definitive forecasting (for contract negotiations), and a finer level of detail can be used for demand planning.

Customer service is improved by having *available-to-promise* (ATP) and similar products available for sale. With the availability of real-time stock reporting, customer service can give the consumer an accurate picture of delivery time.

Inventories are reduced with a product pooling strategy and similar component strategy. By invoking a pooling strategy for inventory, if the finished good requires many similar base components that must be assembled to complete the final product, then the company may use similar parts for completion of the good (as long as it does not make a difference in the finished product).

Efficiencies for operation and machine scheduling are increased. By creating a clearer picture of planning, operations can schedule its resources, labor, and machines to complete the job.

Conclusion

There are many approaches to maximizing the efficiency and reducing the costs of a supply chain. One must consider the type of supply chain currently instituted, and closely analyze how these methods can benefit the current structure. It may be useful to follow a roadmap for supply chain evaluation:

Assess the current supply chain and identify all bottlenecks and anomalies.

Once identified, create a plan on how these situations can be corrected.

Evaluate the options and possible costs, and calculate the *return on investment* (ROI) for any solutions that may be required.

Compute a baseline for the company on *key performance indicators* (KPIs) that are industry standards. This information can usually be found on industry web sites for specific verticals.

Implement the strategies, software, and methodologies that would solve the constraints and bottlenecks.

Re-evaluate the supply chain with the new measures in place; re-establish the new baseline with the increased productivity gains.

Continue to assess the state of the chain, and improve performance along the entire chain.

The options of 3PL, RFID outsourcing, and attribute-based demand planning can add significant value to the company, by saving money, reducing the size of the chain, and even allowing the company to compete with some of the larger players within the space.

The 3PL and the RFID outsourcing options best fit an SMB model. Attribute-based demand planning is best suited for large organizations that require constant product differentiation and that have large supply chains. The physical reduction of total parts carried within the chain will lead to significant savings over the course of the year.

Be cognizant that each step listed in the roadmap above requires full analysis and execution, and will lead to projects for each task. This rapidly becomes a large endeavor not to be taken lightly. If invoked, the company should plan for time, resources, and lost revenue (from shutdown time).