

## Cost Savings in the Supply Chain

a report by

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### Introduction

A primary concern of management is how to achieve strategic goals in ways that are least costly. This is of particular interest during times when economic growth is less than robust, supplies of almost everything are plentiful, and intense competition restricts price increases as a means of improving profits. Because expenditures for materials and services are very significant in most organisations (more than 50% of revenues in most manufacturing companies), supply chains offer an obvious potential source of cost savings. This article will discuss several major sources of potential cost savings in supply chains, identify some techniques of saving supply chain cost, and present a general approach for achievement of supply chain cost savings.

### Sources of Cost Savings in Supply Chains

Two primary sources of cost savings in supply chains are:

- change what is purchased or sold or how and when it is purchased or sold, processed and delivered to the point of use; and
- increase the velocity of material in supply chains to reduce the time from point of entry to the chain to final consumption or sale (see *Figure 1*).

The first source is often approached by a strategic sourcing initiative. Typically, all purchases are identified, the optimum number of suppliers determined, and appropriate strategies applied with the goal of maximising the value of purchases for all items.

The second source of savings can be approached as part of a total cost analysis associated with a strategic sourcing initiative or as a separate effort to reduce the 'cash to cash' cycle time. The most frequent means of obtaining savings from increased velocity is to reduce or eliminate material inventories wherever they exist in the supply chain.

To seek savings from either of these sources requires as complete knowledge as possible of an organisation's most important supply chains. Such knowledge should include purchases, inventories, members of the chain including suppliers, customers and providers of transportation and other services, and all costs and cycle times throughout the chain. The most effective way to organise this information to facilitate analysis is through some form of process mapping, either on paper or with computer software.

### Techniques of Saving Costs in Supply Chains

The specific supply chain management techniques identified as follows are not described in detail because there are many textbooks, handbooks and other sources of detailed information. A few of these are included in the *References* section of this article.

#### **Change What is Purchased or Sold or How and When it is Purchased or Sold, Processed and Delivered to the Point of Use**

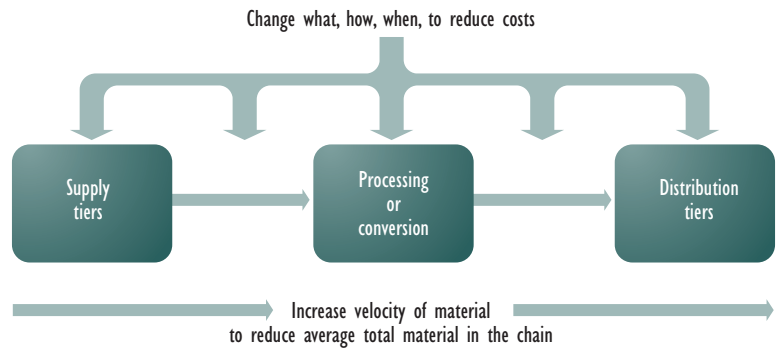
To tap this source of supply chain cost savings, a number of techniques are available. Some of the primary examples include the following (in no particular order and not mutually exclusive).

- Total cost of ownership analysis – analyse all costs involved in obtaining a material or service to select the least-cost alternative or to identify costs that can be reduced or eliminated.
- Procurement process improvements – change the procurement process to reduce cost or improve value, for example blanket orders, procurement cards and e-procurement techniques.
- Spend analysis – identify all spending by an organisation to determine what was bought, who bought it and from whom it was bought. This provides information necessary to conduct a strategic sourcing initiative and to apply other cost-saving techniques.



- Material or service substitution – replace the item or service bought with a different item or service that meets requirements but reduces total cost.
- Material or service respecification or redesign – also known as value analysis. Focus on function versus cost to improve value received.
- Quality improvements – improve the match of quality received to quality required or improve quality consistency over time.
- Outsourcing – determine what can be done more efficiently or effectively outside of the organisation and arrange for others to perform such functions. This usually involves activities that are considered ‘non-core’ or non-critical to the purchasing company.
- Volume leveraging – capture as much as possible of the total spend on a particular item or group of related items and contract for it as an entity. Provides the buyer with the maximum negotiating leverage and economies of scale opportunities.
- Cross-organisational synergies – identify and apply cost-reducing supply chain best practices across various parts or locations of an organisation.
- Material or service standardisation – reduce variety of specification, size or material. Simplifies the entire supply chain process and may enable volume leveraging and procurement process improvements.
- Investment recovery – manage items returned from customers, surplus material purchased, unneeded capital equipment and other materials to recover as much as possible of original cost and to minimise handling and other recovery costs.
- Operational cost reductions – reduce costs of performing services within the responsibility of supply chain management, for example warehouse operations and purchased services such as transportation.
- Price and cost analysis – analyse prices and costs of materials and services to determine cost reduction potential. This requires knowledge of markets and processes for the product categories where this technique is to be applied.
- Target pricing – establish a price you are willing or able to pay for a particular material or service, based on your knowledge of costs and markets, and seek suppliers that will supply your requirements at or below the target.

**Figure 1: Sources of Cost Savings in the Supply Chain**



- Supplier integration – arrange for one supplier to provide materials and/or services that were previously supplied by multiple suppliers. This method can be implemented either vertically or horizontally. Vertically, one or more tiers is removed from the supply chain; horizontally, the number of suppliers is reduced. Vertical implementation can increase material velocity through the chain and improve the chain’s ability to appear as a single entity to customers. Horizontal implementation can reduce procurement process costs and improve volume leveraging potential.
- Supplier relationship revision – change the relationship with suppliers, for example longer-term contracts, partner or alliance-type arrangements or other changes that will enable reduced costs of acquisition, ownership or other supply chain costs.

### **Increase the Velocity of Material in Supply Chains**

Extraction of increased value by increasing material velocity is frequently a lucrative source of supply chain cost savings because many materials move slowly and have many stopping points (inventory locations) in most supply chains. This creates larger average inventories throughout the supply chain and results in high inventory carrying costs. Some techniques that can reduce these costs include the following (in no particular order and not mutually exclusive).

- Reduce number of inventory locations – use supplier inventory or supplier-managed inventory, drop-ship items, consolidate stocks into fewer locations.
- Maintain smaller average inventories – evaluate levels of safety stock, arrange for more timely supplier back-up to enable smaller safety stock, perform analyses such as ABC periodically to ensure that all items are managed properly according to their movement and importance as demand conditions change.

- Increase transportation speed – reduce transportation inventory quantities and enable consolidation of stocks into fewer locations by replacing location-enabled access with transportation-enabled access.
- Apply lean manufacturing techniques – reduce/eliminate waste in the form of unnecessary inventories. This usually necessitates improved forecasting of requirements to match supply quantities and timing to user requirements.
- Apply just-in-time techniques – similar to lean manufacturing techniques but applied at any location across the entire supply chain. These operate without extra or 'just-in-case' materials.
- Improve requirements forecasting at all levels – necessary throughout the supply chain to achieve full potential of any inventory reduction programme, particularly lean manufacturing and just-in-time techniques.

### **An Approach to Achievement of Supply Chain Cost Savings**

A framework of three broad steps can be used to achieve supply chain cost savings. All steps in the process are best conducted by cross-functional teams that include representation of all stakeholders in a particular supply chain including internal functions, suppliers, customers and third parties such as transportation providers. Prior to any supply chain cost-saving effort, preliminary investigation should be carried out to determine a possible range of savings that could be achieved. From preliminary estimates of cost savings, obtain management support for a detailed analysis.

The three steps can be characterised as an 'LSP' approach to supply chain cost savings: learn, study and plan.

### **Learn Supply Chain Management Techniques**

This includes the techniques identified earlier in this article but also includes other methods, processes and systems that impact supply chain operations and costs but are not specific only to supply chains. These include, for example, suppliers' operations, information technology and e-business, ordering and payment systems, forecasting techniques, use of cross-functional teams, product development processes, production planning and scheduling techniques, material requirements planning (MRP) techniques, distribution system operations, marketing and sales processes and facility location techniques.

### **Study Your Supply Chains**

Identify the most strategic and critical supply chains and all their members. Where is the money, material, time and information in each of these chains? Also, determine business goals for your suppliers and customers. This stage of the process enables identification of areas that have the greatest potential for cost savings.

- Money – total overall spend and total spend per year per item or related groups or items, total spend per supplier per year, inventory investment values, inventory-related costs, transportation costs, ordering, transferring, receiving costs and quality assurance costs.
- Material – inventories: raw materials and parts, work in process, finished products, distribution storage systems, transportation systems, designated supplier stocks, customer stocks, material returned, rework, rejects, scrap, MRO materials and spare parts. Identify movement, location, value, quantity and safety stock levels.
- Time – some supply chain time cycles: supplier selection, order/receipt of materials and services, requisition/order/receipt, material preparation for processing, transportation, receiving, payment, design/engineer/procure/manufacture/deliver. Depending on type of industry and market, some of these and others will be more important and should be analysed. Cycle time improvement contributes to increased productivity, efficiency and ability to compete.
- Information – knowledge of supply chains requires information. All organisations have information but, in most cases, it is not organised in a way that contributes to supply chain knowledge. Potential sources of supply chain information: accounting, inventory, production planning and control, quality assurance, sales and marketing, transportation, shipping/receiving, supplier sales, customer purchase and receiving and information systems such as MRP and enterprise resource planning.

### **Plan to Improve Supply Chain Performance**

Using cross-functional teams, integrate knowledge of supply chain management techniques and supply chains to identify problem areas or areas that are not meeting expectations. A review that includes the following may help identify areas with high improvement potential:

- large number of suppliers of a single product or service;

- big money flows in or out of the organisation;
  - major continuing purchases;
  - major continuing product sales;
  - largest volume production;
  - highest-cost activities, functions or services performed; and
  - activities or processes that have long cycle times.
- Classify identified areas of potential improvement by cost-savings potential and ease of implementation. Rank in order of highest potential and easiest implementation. Develop specific projects for application of cost-saving techniques in the highest-ranked areas. Include implementation plans and performance metrics. Prepare business cases for these projects and obtain management and stakeholder support. Implement changes and follow up to ensure cost savings are achieved and continuous improvement opportunities are captured and implemented. Review metrics periodically and adjust processes as necessary to continue or improve savings.

### Summary

The most important elements of successfully achieving supply chain cost savings are:

- use an organised approach, including cross-functional teams;
- obtain management and stakeholder support, in general and for specific projects;
- learn supply chain cost-saving techniques;
- study and know your supply chains;
- establish metrics and standards for measurement of supply chain performance; and
- measure results and conduct follow-up reviews periodically to ensure savings capture and maintenance. ■

### References

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