

# A CASE STUDY OF SUPPLY CHAIN MANAGEMENT SYSTEM

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**Abstract:** - Organizations increasingly find that they must rely on effective supply chains, or networks, to successfully compete in the global market and networked economy. This concept of business relationships extends beyond traditional enterprise boundaries and seeks to organize entire business processes throughout a value chain of multiple companies. Supply chain management is the term used to describe the management of the flow of material, information and fund across the entire supply chain, from suppliers to component producers to final assemblers to distribution (warehouses and retailers), and ultimately to the consumer. In fact, it often includes after-sales service and returns or recycling. In contrast to multi-selection inventory management, this coordinates inventories at multiple locations.

**Keywords:** - Supply Chain, organization, SCM, Just-In-Time, cost, suppliers, intermediaries, third-party service providers.

## Introduction

The challenge of supply chain design and management is in the capability to design and assemble assets, organizations, skills, and competences. It encompasses the team, partners, products, and processes. "A supply chain is defined as a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances or information from a source to a customer".

Organizations increasingly find that they must rely on effective supply chains, or networks, to successfully compete in the global market and networked economy. This concept of business relationships extends beyond traditional enterprise boundaries and seeks to organize entire business processes throughout a value chain of multiple companies.

There have been few changes in business environment that have contributed to the development of supply chain networks. First, as an outcome of globalization and proliferation of multi-national companies, joint ventures, strategic alliances and business partnerships were found to be significant success factors, following the earlier "Just-In-Time", "Lean Management" and "Agile Manufacturing" practices. Second, technological changes, particularly the dramatic fall in information communication costs, a paramount component of transaction costs, has led to changes in coordination among the members of the supply chain network. So supply chain management is the term used to describe the management of the flow of material, information and fund across the entire supply chain, from suppliers to component producers to final assemblers to distribution (warehouses and retailers), and ultimately to the consumer. In fact, it often includes after-sales service

and returns or recycling. In contrast to multi-selection inventory management, this coordinates inventories at multiple locations.

## Overview of SCM

The origins of the technique we now know as supply chain management are thought to lie in the shipyards of Japan and were first used in the early 1950s. The technique was later used in the car manufacturing industry and in particular was pioneered, again in Japan, by Toyota.

## Why did SCM start?

In order that manufacturing companies could increase their competitiveness and thus their market share and profitability by:

- Minimizing the costs of production on a continuing basis.
- Introducing new technologies.
- Improving quality, and being able to concentrate on what they do best.

This could not be achieved with traditional supplier relationships because of the following factors;

- Costs
  - Bids based on designs to which suppliers made no input, so may be hard and expensive to build and assemble.
  - Low bids won – so suppliers were encouraged to bid low.
  - But low prices were unsustainable – so had to increase by some other means.
- Assembler took no interest in the supplier
  - Didn't understand underlying costs – which may be high.
  - Thought low price meant low cost – so attacked margin.
  - Gave short-term contract – so no chance of supplier investing to reduce underlying costs.

- Technology
  - Margins cut to the bone – ergo – suppliers had no money to invest in new technologies.
- Quality
  - Starts with the design – which may be faulty and not fit with other suppliers.  
Needs investment in people and systems – but no money as overheads attacked.
- Assembler couldn't concentrate on what it did best  
Too busy trying to do everything

The result of all this was:

- Functionality of finished product was compromised
- Cost inflation inevitable as all parties found ways to make money
- Profits low and made by expediency – not planning
- Suppliers distant from final customer so took limited interest in quality

There had to be a better way - it was Supply Chain Management.

### Overview: Supply Chain

The challenge is how to expand the global logistics and distribution network, in order to ship products to customers who demand them in a dynamic and rapidly changing set of channels. The term supply chain consists up image of product or supply moving from supplier to manufacture to distributor to retailer to customer along a chain. It also implies that only one player is involved at each stage. So a . Supply chain should actually be efficient and effective. In this case, efficient means to minimize resource use to accomplish specific outcomes and effective, in terms of designing distribution channels. Efficiency is measured by delivery performance, product quality, backorders and inventory level, whereas effectiveness is measured by service quality and the service needs.

Long-term competitiveness therefore depends on how well the company meets customer preferred in terms of service, cost, quality, and flexibility, by designing the supply chain, which will be more effective and efficient than the competitors. Optimization of this equilibrium is a constant challenge for the companies which are part of supply chain. To be able to optimize this equilibrium, many strategic decisions must be taken and many activities coordinated. This requires careful management and design of the supply chain.

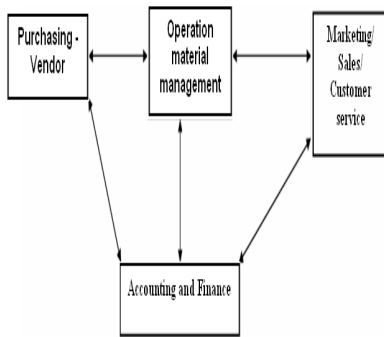
The supply chain may include internal divisions of the company as well as external suppliers that provide input to a local company. A supplier for this company has his own set of suppliers that provide input (also called second tier suppliers). Supply chains are essentially a series of linked suppliers and customers until products reach the ultimate customer.

### Supply Chain Management

Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates the whole system management system; each system is interlinked to other

Supply chain management is the combination of the enterprise strategies, business process and information technologies that integrates the suppliers of raw materials or components, the manufacturers or assemblers of the finished products, and distributors of the products or services into one cohesive process to include demand forecasting, materials requisition, order processing, order fulfillment, transportation services, receiving, invoicing, and payment processing. Supply chain management is a cross-functional approach to managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and then the movement of finished goods out of the organization toward the end-consumer. customer are only point from which service provider get value for his product .These functions are increasingly being outsourced to other entities that can perform the activities better or more cost effectively. Customer and supplier are main focus point of supply chain. Cash flow and order flow from direct customer to supplier, means supply of product depend on the order received from customer. Inventory of product requires at two point firstly when supplier supply raw material to manufacture, secondly when manufacture supply finish good to the customers as shown in fig.1 .

The main function of supply is to increase the number of organizations involved in satisfying customer demand, while reducing management control of daily logistics operations. Less control and more supply chain partners led to the creation of supply chain management concepts. The purpose of supply chain management is to improve trust and collaboration among supply chain partners, thus improving inventory visibility and improving inventory velocity. As firms successfully streamline their own operations, the next opportunity for improvement is through better coordination with their suppliers and customers. The costs of poor coordination can be extremely high However, because of trade promotions, volume discounts, long lead times, full-truckload discounts, and end-of-quarter sales incentives the orders seen at the manufacturers are highly variable .



**Fig 1 Supply chain system integration**

### Seven principles of supply chain management

To balance the customers' demands with the need for profitable growth, many companies have moved aggressively to improve supply chain management. Their efforts reflect seven principles of supply chain management that, working together can enhance revenue, cost control, and asset utilization as well as customer satisfaction.

1. Segmenting the customers according to their demands and providing them with a tailored set of products and services that will have maximum impact on them.
2. Customizing the logistics network through more robust logistics planning enabled by real time decision support tools that can handle flow-through distribution. More time-sensitive approaches to managing transportation will result in significant increase in revenues and return on investment.
3. Listening to signals of market demand and planning the production according to them helps the organizations to avoid situations like over stocking and out of stock during peak seasons.
4. Differentiating products closer to the customer avoids product obsolescence and increases the impact on the customers.
5. Sourcing strategically from suppliers who share the common goals improves the supply chains efficiency as it reduces inventory and gives way to concepts like vendor-managed inventory.
6. Developing supply chain wide common, technology strategy improves interaction between the supply chain partners.
7. Adopting a common supply chain wide performance measure directs all the supply chain partners to work towards a common goal and facilitates comparisons across organizational boundaries [1].

### Objective of SCM

All flows of information product or funds generate cost with in supply chain. Thus, the appropriate management of these flows is a key to supply chain success. Effective supply chain management involves the management of supply chain assets and product information, and fund flows to

maximize to supply chain profitability. These are some main objectives of supply chain:

- To reduce the physical supply chain links
- To define supply chain responsibility to core service competency
- To decrease the time and cost of getting end user product in required quantity at the place of requirement.
- Efficiency & Cost Effectiveness across the entire Chain SCM objective is to maximize the overall value generated.
- Supply chain profitability is the difference between the revenue generated from the customer and the overall cost across the supply chain
- Supply chain success is measured in terms of supply chain profitability and not in terms of the profits at an individual stage
- Revenue is from customer – positive cash flow
- All other cash flows are simply fund exchanges that occur within the supply chain given that different stages have different owners
- All flows of information, product or funds generates costs within the supply chain
- Supply chain management involves the management of flows between and among stages in a supply chain to maximize total supply chain profitability

### Some issues in supply chain management

Supply chain success just doesn't happen. It takes focus and efforts across the entire company organization and with outside suppliers and service providers. Logistics touches every part of a company. So supply chain management must be multidimensional in its approach and scope, this includes process, people and technology.

These are some major issue in supply chain

- Supply Chain Networks
  - The network facilities and supporting transportation is important
  - Increased complexity for organizations is a problem
  - Inventory Deployments
  - The bullwhip effect
  - Collection and storage of vast amounts of data

- Technology
- Transportation Management
  - Right product, right time, right quantity, right quality, right cost, right destination
- Global Issues
  - Global issues examine how all of the above categories are affected when companies operate in multiple countries.

### Proposed work

Two case studies have been conducted in XYZ AUTOMOBILE INDUSTRIES LTD and ABC INDUSTRIES LTD Work has been carried out in these organizations on supply chain management. The chains of both firms are studied and the concepts of supply chain management are implemented.

In XYZ AUTOMOBILE INDUSTRIES LTD the study is conducted in collection of material, supplier, storage, supply chain of spring manufacturing and distribution. During study some drawback is found and some suggestion is also mentioned for increasing supply chain surplus. In ABC INDUSTRIES LTD the study conducted in inbound logistics like customer order supplier of raw material and planning and also conducted in outbound logistics like transportation, inventory of finished goods and handling of material.

### Limitation of present work

- The company didn't provide authentic written documents/data. So all information is verbally collected. So the result outcome is not so accurate.
- The present work study touches the human factor very small extent. Therefore, the behaviors and culture of Indian work force should be studied deeply for the effective implementation of supply chain management.

### Conclusion

Management of a supply chain means managing all the different processes and activities that produces value in the ultimate consumer. Companies that intend to compete globally should implement supply chain management. It is a vital that they must continually reach new customers and attract their existing customers. The leading companies, who have implemented the approach, are found to operating with 36% lower logistics cost than the average. Management of supply chain requires the planning and control of activities to achieve a desired goal and shaping the organization by coordinating activities, goal interest and relationship to be able to resolve conflicts and make good decision.

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