

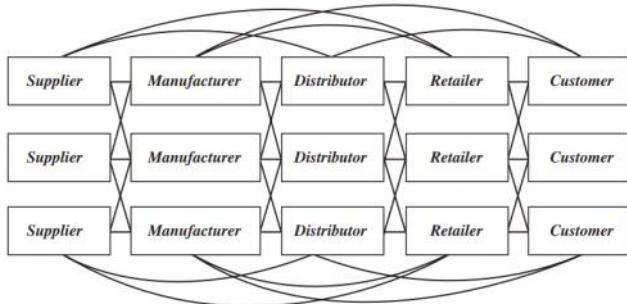
Chapter 1

Friday, 2 October 2015 10:40 AM

Supply Chain - A *dynamic network* involving parties needed to *fulfil a customer request*

A network can involve the following:

- Customer
- Distributors / Wholesalers
- Raw Material suppliers
- Retailers
- Manufacturers



Each stage is connected through a **flow of products, information, and funds**

Objective of a supply chain - maximize overall value generated

Supply chain surplus = customer value - supply chain cost

Where:

Customer value - the value that the customer is **willing to pay** for the service / product

Supply chain cost - **Cost** incurred to *convey* information, *produce* components, *store*, *transport* and *transfer* funds

Supply chain profitability - total profit to be shared across all supply chain stages and intermediaries

Therefore, the only way to increase the profit pie is to:

1. Increase customer value keeping cost relatively the same
2. Decrease cost of supply chain

Effective supply chain management is to have the control of:

Supply chain assets, products, information flow and funds transfer

Example:

- India has millions of small stores that use one manufacturer to restock their products (low volume).
 - Therefore, transportation cost would be high in the case where a manufacturer needs to go to each store (high transport cost)
 - So, manufacturer will instead transport a high volume of products to a nearby distributor, warehouse to store, and a local transport agent to distribute to these stores (lower transportation cost incurred - cost includes the warehouse storage cost + local transport agent)
 - Cost collection is also reduced as distributors collect the cost of the products for the manufacturer and transfer the funds to them

Supply Chain Decisions

- Design
- Planning
- Operations
- Adaptations to changing environment, technology

Phases of a supply chain decision

Supply chain strategy / design

- How to structure the supply chain
 - Long-term strategy
 - Resources to be allocated
 - Process of each stage to be performed
 - Outsource, or in-house adaptation
- Inflexible

Supply chain planning

- Initiated once supply chain strategy is done
 - Last quarter of a year
- Maximise supply chain surplus
 - Forecast of sales (coming year)
 - Cost and price of different markets
 - Inventory policies for each market
 - Locations to subcontract
 - Warehouse, etc
 - Which location to be supplied from which location
 - E.g. Cheapest cost to supply location A can be from location B
 - Timing, size, promotion
- More flexible as shorter timeframe

Supply chain operations

- Make decision to fulfil customers' orders
- Allocation of :
 - Inventory
 - Schedule
 - Procurement
 - Transportation

- Daily or weekly time phrase
 - o Little uncertainty of information lapse
- Exploit the reduction of uncertainty to optimize performance

Process views of supply chain

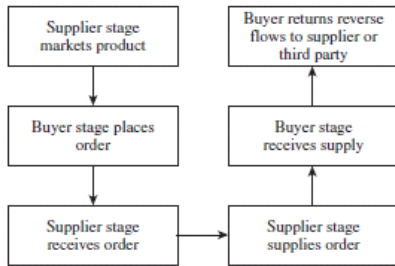
Two type of process flow

1. Cycle View
2. Push/Pull View

Cycle View

- a. Customer order cycle
 - b. Replenishment Cycle
 - c. Manufacturing Cycle
 - d. Procurement Cycle
- Series of cycle to complete the supply chain
 - o Where each is performed between interactions of two successive stages

Each cycle has 6 processes



1. Supplier markets the product to its intended customers.
2. The customers place an order and its received by suppliers
3. The supplier fulfil the order, and its received by the customer
4. Buyer may return some products to supplier

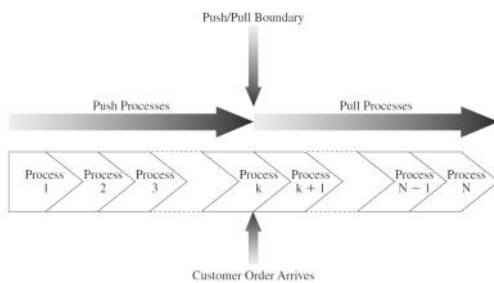
Customer cycle

- Demand is uncertain

Other cycle

- Demand is more certain
 - o Due to previous top cycle information
 - Able to predict and plan
- Sharing of information and operation policies are important

Push/Pull View



- All supply chain will fall into two categories
 - o Pull
 - o Push
- Based on the timing of the execution of the supply chain process

Pull Process

- Initiated when they react to customers demand
 - o Triggered only when customer request for the product/service

e.g.

Dell Built-To-Order Customization

Push process

- Respond to speculation of a projected demand
 - o Prepare in advance

E.g.

Asus laptops in distributors

The idea of choosing the method of distribution - ensure that there is enough supply to meet the demand efficiently and profitably

Supply Chain Macro Processes in Firm

1. CRM
 - a. interface between firm and customer
 - i. Marketing strategies
 - ii. Customer information
 - iii. Website management, etc
2. ISCM
 - a. internal supply chain management where strategy decisions and planning

- i. Planning production, schedule internal production and storage capacity, preparation of supply and demand plans to fulfil orders
 - b. Aims to fulfil requirements set in CRM
 - i. Timely manner at lowest cost
- 3. SRM
 - a. Interface between firm and suppliers
 - i. Pricing
 - ii. Negotiation
 - iii. List of suppliers
 - iv. communication