MGMT30011: Supply Chain Management
2018 Summer Semester

Course Summary

Lecture 1: Introduction to Supply Chain Management

Supply chain involves a key decision or strategy

- Organisations are more efficient are doing a specific task
  - What am I going to do myself, what am I going to get other people to do?
    - Knowledge and capability
    - Some organisations may have economies of scale
- Example: Apple
  - Everything is a supply chain
  - Where do they create value? Design, marketing and branding
  - Everything else is outsourced
    - Outsourcing is essential

Identifying the risks of supplying:

- Example: Clothing Manufacturer
  - What are the risks of some of your suppliers?
    - Quality
    - Social – sweat shop workers
      - Pollutions
      - Sustainability
      - Conditions
      - Pay
  - Why does it matter?
    - Brand image is important for the customer

Supply Chain Management:

- There are a lot of processes
  - Each process there is a <u>transformation</u>
  - Every step of the supply chain is adding a transformation of value
    - Knowledge
    - Skills
    - Techniques

What is a supply chain?

Raw materials manufacturers
Intermediate product manufactures
End product manufacturers
Wholesalers and distributors
Retailers

Flow of products and services from:

- Each of these is an intermediate step in the supply chain
  - Create value in each step
- Supply chain is disrupted by new technologies

  - Example:
    - Before you would listen to CD's now there's online streaming (Spotify, google music)
    - Taken out the intermediate steps, e.g. much less physical distribution of music
      - Process for this is called disintermediation of the supply chain
      - Understanding the supply chain to understand how new technology could change
        - Potential new disruptions of supply chain
          - 3D printing, AI, self-driving cars
          - Disrupting supply chain -> creates business opportunities
        - Example:
          - Uber has transformed transportation industry

- Connected by transportation and storage activities
    - Totally different supply chains
- Integrated through information, planning, and integration activities
    - Demand forecasting
        - Example: Apple iPad
            - Great divide on the consumer base
            - What was the difference of the iPad?
                - Laptop was good at creating
                - iPad is good at media consumption
                - movement away from media creation to media consumption
    - Has changed our supply chain
        - Example: Uber eats
            - Value from assurance (tracking the food)
    - Create different value propositions
- Cost and service levels

Supply Chain Management: supply chains are the strings that tie organisations together

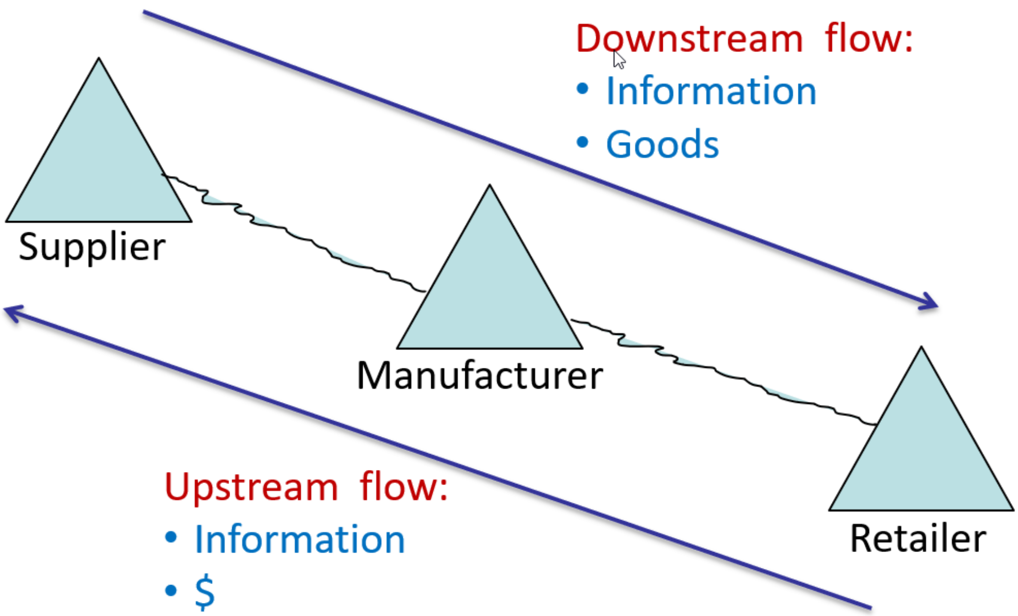
Objective: The objective of supply chain management is to structure the supply chain to maximise its competitive advantage and benefits to the ultimate consumer

- All about the creating superior value propositions
- You're offering a better bundle of benefits than your competitors given respective costs

A competitor can be a strategic partner

- Example: Samsung supplying batteries to Apple

Example iPad:



- Market information to tell your suppliers
    - Uncertainty about demand
        - forecast
    - How much to produce?
    - All suppliers need to be at the right spot at the right time (timing)

Exam preparation key topics: 10 questions

1. "Managers have started to realize that by taking supply chain concerns into account in the <u>product and process design phase</u> it becomes possible to <u>operate a much more efficient and effective supply chain</u>." How can Design for Logistics (DFL) be used to reduce transportation and inventory costs in supply chains? Use case examples to illustrate.

<u>What is DFL</u>

DFL is a strategy in supply chain management involving product design to reduce logistics cost. An example of DFL is Soda Cans. In 1957 Soda Can manufacturers switched from cone top soda can to flat top soda can, cans became easier to store, stack and transport. This resulted in tremendous cost savings for the industry. 3 components of DFL:

- **Economic Production, Packaging and transportation**
    - Product manufacturing should be *simplified* and *standardised*: ***Soda cans***
    - Product design should facilitate easy *storage*: ***Walmart's 14x14 shelf***
    - Product should be easy to *pack* and *transport*: ***IKEA's flat packaging strategy***
- **Concurrent and parallel processing**
    - Modify manufacturing process so that steps previously performed in sequence can be completed at the same time. This reduces manufacturing lead time, lower inventory costs through improved forecasting, and reduce safety stock requirements.
- **Standardization of products (*Benetton, ZARA*:** dying garments)
    - Modular design so individual parts can be broken down:
        > Postponement final form of product
        > Achieve standardization of parts by using common parts for different products. Similarly, for procurement we can use standard processing equipment for several products.

<u>How DFL reduces transport and inventory costs in supply chains</u>

1. Reduce *Inventory carrying costs*
    - When product has quick build-to-ship times and favours a build-to-order (BTO) supply chain model
2. Reduce *Storage space costs*
    - Total landed cost reduces with more efficient design that is easier to handle/ transport/ store
        - Fully stock out freight/ warehousing – maximise full area available
3. Better *Inventory management*:
    - Easier to track and store inventory
        - Reduce chance of obsolescence
            > Design for high velocity movement will also help reduce obsolescence risk
        - Reduces chance of deterioration of quality
            > Managers can easily select stock to clear/ sell first (FIFO)

<u>Conclusion</u>

DFL is a crucial component in supply chain management. It is not just a mechanism to save costs but is being consistently used as a strategic weapon to *gain competitive advantage*. While there are challenges to implementing DFL, there are also evolving business means to support this type of integrated process. Those who deploy DFL techniques should consider all end-to-end factors within their business that can help or hinder their success.