Supply Chain Management: International Issues in SCM

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Table of contents I

Outline of this lecture I

- We introduce the opportunities and challenges in International Supply Chain Management.

Section 1

Introduction

International Supply Chain Management I

- International Supply Chain management is the same as domestic supply chain management spread over a larger geographic area.
- Although it seems that global supply chains are designed without regard to national boundaries, but the true value of a global supply chain can only be realized by taking advantage of these national boundaries.
- It is readily apparent that global operations and supply chains are becoming increasingly significant—this can be seen from some statistics below:
  - 1/5 of output of US firms produced abroad
  - US Companies hold $500 Billion in foreign asset stocks (7% annual growth)
  - 1/4 of US imports between foreign affiliates and US parent companies

International Supply Chain Management II

  - Over half of US companies increased the number of countries in which they operate (late 80?s to early 90?s)
- However, opportunities and challenges coexist!

Taxonomy of International Supply Chains I

- International Supply Chains range from a primarily domestic business with some international suppliers to a truly integrated global supply chain.
  - **International distribution:** manufacturing occurs domestically, but distribution and marketing take place overseas.
  - **International suppliers:** raw materials and components are furnished by foreign suppliers, but assembled domestically (probably shipped back to foreign countries for consumption).
  - **Off-shore manufacturing:** finished product is sourced and manufactured overseas and then shipped back to domestic warehouses for sale and distribution.
  - **Fully integrated global supply chain:** products are supplied, manufactured, and distributed from variable facilities located throughout the world.

Section 2

Forces Driving Globalization

Forces Driving Globalization I

- Global Market Forces
- Technological Forces
- Global Cost Forces
- Political and Economic Forces

Subsection 1

Global Market Forces

Global Market Forces I

- Foreign competition in local markets
- Growth in foreign demand
  - Domestic consumption from 40% to less than 30% of world consumption since 1970
  - One cause of the increasing demand throughout the world is the global proliferation of information.
  - "People have became **global citizens** and so must companies that want to sell them things."
- Companies have to compete globally with universal products and the opportunity to hire talented employees worldwide. For example, you have to compete with Japanese consumer electronics, and Germany's machine tools and US's SUV'S worldwide.

Subsection 2

Technological Forces

Technological Forces I

- Diffusion of knowledge
  - Many high tech components developed overseas
  - Need close relationships with foreign suppliers
- Technology sharing/collaborations
  - Access to technology/markets
- Global location of R&D facilities
  - Close to production (as cycles get shorter)
  - Close to expertise (Indian programmers?)

Subsection 3

Global Cost Forces

Global Cost Forces I

- Low (unskilled) labor cost has been the decisive factor in determining factory location
- However recent studies show that the cost of cheaper unskilled labor were more than offset by the increase in other costs associate with operating facilities in foreign countries (Costs underestimated, benefits overestimated).
- So we should also take into consideration of other cost priorities
    - Integrated supplier infrastructure (as suppliers become more involved in design)
    - Cheaper Skilled labor
    - Capital intensive facilities costs often dominate other costs. Many governments are willing to provide incentives to attract business via
        - tax breaks

Global Cost Forces II

- joint ventures
- price breaks
- cost sharing

Subsection 4

Political and Economic Forces

Political and Economic Forces I

- Exchange rate fluctuations and operating flexibility
- On one hand, there are regional trade agreements (Europe, North America, Pacific Rim) to ease the globalization.
- On the other hand, there are trade protection mechanisms that affect international supply chain decisions.
  - Tariffs and Quotas affect importation, which may lead a company to stay domestically.
  - Voluntary export restrictions can also affect supply chain: For example, Japanese automakers were only to manufacturing more expensive cars only after they agree voluntarily to limit exports to US market.
  - Local content requirements forces companies, like TI/Intel to manufacture microprocessors in Europe and Japanese automakers produce cars in the EU

Political and Economic Forces II

- Government procurement policies: Up to 50% advantage for American companies on US Defense contracts

Section 3

Risks of international supply chains and how to address them

Risks of international supply chains and how to address them I

- The major risk is the fluctuating exchange rates, a double razor, which can turn a particular product selling at a particular price from being extremely profitable to a total loss and vice versa.
- There are three ways a global supply chain can be employed to address global risks.
  - Speculative strategies: Company bet on a single scenario, with often spectacular results if the senario is realized, and dismal one if it is not.

Risks of international supply chains and how to address them II

- For example, in the late 1970s and 1980s, the Japanese automakers won the bet on manufacturing in Japan because they believe rising domestic labor costs can be offset by exchange rate benefits. However, this did not last long because the US government intervenes to force the Japanese government to raise the value of Japanese Yen (similar thing is happening now between US and China).
- Hedge strategies: A SC is designed in such a way that any losses in part of the chain will be offset by gains in another part.
    - For example, Volkswagen are operating plants in US, Brazil, Mexico, and Germany.
- Flexible strategies: A SC is designed with multiple suppliers and and excess manufacturing capacity in different countries so that products can be moved at minimal cost from region to region as economic conditions demand.

Risks of international supply chains and how to address them III

- We will discuss more on the last strategy, which is the most popular one right now.

Section 4

Flexible strategies Implementation

Flexible strategies Implementation I

- First we need to consider whether it is possible implement such a strategy.
  1. Is there enough variability in the system to justify the use?
  2. Do the benefits of spreading production over various facilities justify the costs?
  3. Does the company have the appropriate coordination and management mechanisms in place?
- If the answer to the questions is yes, and a SC is appropriately designed, then several approaches can be utilized to implement a flexible strategies effectively.
  - **Product shifting:** As exchange rates, labor cost and so on change, manufacturing can be relocated.
  - **Information sharing:** Availability of information increases with presence over many regions and markets, which in turn can be used to create new opportunities.

Flexible strategies Implementation II

- **Global coordination:** Having multiple facilities worldwide provides a firm with some market leverage that it might otherwise lack. For example, if one firm attacks one of your markets, you can attack back.
- **Political leverage:** The implicit threat of movement is sufficient to prevent local politicians from taking unfavorable actions.

Requirements for global strategy implementation I

- NO company is immediately ready for integrated global supply chain management on this scale. So important developments to set the stage is critical:
  - Product development: Design product that can easily modified for major markets and can be manufactured in various facilities.
  - Purchasing: A management team responsible for worldwide purchasing from many vendors is extremely important.
  - Production: Production worldwide must be coordinated based on effective information sharing—so a centralized control may be appropriate.
  - Demand management: How to integrate local demand forecasts is a complicated job, which again heavily depends on effective communication system and centralized control.
  - Order fulfillment: Again effective communication system and centralized control are critical.

Section 5

Additional issues in international supply chain management

Additional issues in international supply chain management I

- International vs. regional products:
  - Automobile designs are often region-specific.
  - Coca-cola and McDonald are essentially true global.
- Local autonomy vs. central control:
- Regional cultural different: such as language, beliefs and customs.
- Regional infrastructure different:
  - First world: advanced
  - Emerging nations: fair and in rapid deployment
  - Third world: insufficient
- Regional performance expectation and evaluation:
  - First world: standardized

Additional issues in international supply chain management II

- Emerging nations: vary greatly
- Third world: insufficient

- Information system availability:
  - First world: advanced
  - Emerging nations: fair and in rapid deployment
  - Third world: insufficient
- Human resource
  - First world: available but expensive
  - Emerging nations: vary greatly but usually cheap
  - Third world: insufficient

Section 6

Case

A Case: Wal-Mart in South America I

- Why is Wal-Mart not as successful in Latin America as they are in the US?
- What mistakes did Wal-Mart make?
  - Product differences
    - Are there global products?
    - What is the balance between local tastes, global products?
  - Dealing with established competition, aggressive competitors
  - Developing market knowledge
  - Lack of critical mass
  - Different infrastructure/ business environment
    - distribution problems
    - different equipment standards cultural differences
    - postdated checks
  - Issues with foreign governments
  - Deep pockets for success