International Business 7e

by Charles W.L. Hill

Chapter 16

Global Production, Outsourcing and Logistics

Introduction

International firms must answer five interrelated questions:

1. Where should production activities be located?
2. What should be the long-term strategic role of foreign production sites?
3. Should the firm own foreign production activities, or is it better to outsource those activities to independent vendors?
4. How should a globally dispersed supply chain be managed, and what is the role of Internet-based information technology in the management of global logistics?
5. Should the firm manage global logistics itself, or should it outsource the management to enterprises that specialize in this activity?

Strategy, Production, And Logistics

Firms need to identify how production and logistics **can** be conducted internationally to**:**

- lower the costs of value creation
- add value by better serving customer needs

- Production refers to activities involved in creating a product
- Logistics refers to the procurement and physical transmission of material through the supply chain, from suppliers to customers

Strategy, Production, And Logistics

To lower costs, firms can:

- disperse production to those locations where activities can be performed most efficiently
- manage the global supply chain efficiently to better match supply and demand

To improve quality, firms can:

- eliminate defective products from the supply chain and the manufacturing process

- Improved quality will also reduce costs

Strategy, Production, And Logistics

- To increase product quality, most firms today use the Six Sigma program which aims to reduce defects, boost productivity, eliminate waste, and cut costs throughout a company
- Six Sigma, a direct descendant of total quality management (TQM), has a goal of improving product quality
- In the European Union, firms must meet the standards set forth by ISO 9000 before the firm is allowed access to the European marketplace

Strategy, Production, And Logistics

International companies have two other important production and logistics objectives:

- production and logistics functions must be able to accommodate demands for local responsiveness
- production and logistics must be able to respond quickly to shifts in customer demand

Where To Produce

Three factors are important when making location decisions:

1. country factors
2. technological factors
3. product factors

Country Factors

- Firms should locate manufacturing activities in those locations where economic, political, and cultural conditions, including relative factor costs, are most conducive to the performance of that activity

Country factors that can affect location decisions include:

- the availability of skilled labor and supporting industries
- formal and informal trade barriers
- expectations about future exchange rate changes
- transportation costs
- regulations affecting FDI

Technological Factors

- The type of technology a firm uses in its manufacturing can affect location decisions

Three characteristics of a manufacturing technology are of interest:

1. the level of fixed costs
2. the minimum efficient scale
3. the flexibility of the technology

Technological Factors

1. The level of fixed costs:

- If the fixed costs of setting up a manufacturing plant are high, it might make sense to serve the world market from a single location or from a few locations
- When fixed costs are relatively low, multiple production plants may be possible
- Producing in multiple locations allows firms to respond to local markets and reduces dependency on a single location

Technological Factors

2. The minimum efficient scale:

- The larger the minimum efficient scale (the level of output at which most plant-level scale economies are exhausted) of a plant, the more likely centralized production in a single location or a limited number of locations makes sense
- A low minimum efficient scale allows the firm to respond to local market demands and hedge against currency risk by operating in multiple locations

Technological Factors

3. The flexibility of the technology:

- flexible manufacturing technology or lean production covers a range of manufacturing technologies that are designed to:
- reduce set up times for complex equipment
- increase the utilization of individual machines through better scheduling
- improve quality control at all stages of the manufacturing process

Technological Factors

- Firms using flexible manufacturing technologies can produce a wide variety of end products at a unit cost that at one time could only be achieved through the mass production of a standardized output
- Mass customization implies that a firm may be able to customize its product range to meet the demands of local markets yet still control costs
- Flexible machine cells allow firms to increase efficiency by improving capacity utilization and reducing work-in-progress

Classroom Performance System

What allows firms to increase efficiency by improving capacity utilization and reducing work-in-progress?

a) mass customization

b) Six Sigma technology

c) ISO 9000

d) flexible machine cells

Technological Factors

Concentrating production at a few choice locations makes sense when:

- fixed costs are substantial
- the minimum efficient scale of production is high
- flexible manufacturing technologies are available

Production in multiple locations makes sense when:

- both fixed costs and the minimum efficient scale of production are relatively low
- appropriate flexible manufacturing technologies are not available

Classroom Performance System

Firms should produce in multiple locations when

a) fixed costs are low
b) fixed costs are substantial
c) the minimum efficient scale of production is high
d) flexible manufacturing technologies are available

Product Factors

Two product factors impact location decisions:

1. the product's value-to-weight ratio:

- If the value-to-weight ratio is high, it is practical to produce the product in a single location and export it to other parts of the world
- If the value-to-weight ratio is low, there is greater pressure to manufacture the product in multiple locations across the world

2. whether the product serves universal needs:

- When products serve universal needs, the need for local responsiveness falls, increasing the attractiveness of concentrating manufacturing in a central location

Classroom Performance System

All of the following are key factors that influence the decision of where to produce *except*

a) country factors
b) competitors factors
c) technological factors
d) product factors

Locating Production Facilities

There are two basic strategies for locating manufacturing facilities:

1. concentrating them in the optimal location and serving the world market from there
2. decentralizing them in various regional or national locations that are close to major markets

Locating Production Facilities

Table 16.1

	Concentrated Production Favored	Decentralized Production Favored
Country Factors		
Differences in political economy	Substantial	Few
Differences in culture	Substantial	Few
Differences in factor costs	Substantial	Few
Trade barriers	Few	Substantial
Location externalities	Important in industry	Not important in industry
Exchange rates	Stable	Volatile
Technological Factors		
Fixed costs	High	Low
Minimum efficient scale	High	Low
Flexible manufacturing technology	Available	Not available
Product Factors		
Value-to-weight ratio	High	Low
Serves universal needs	Yes	No

Classroom Performance System

When _____, firms will favor decentralized production.

a) there are substantial differences in political economy
b) fixed costs are high
c) the product's value-to-weight ratio is high
d) exchange rates are volatile

Classroom Performance System

Concentrated production makes sense when

a) minimum efficient scale is high
b) location externalities are not important
c) the product does not serve universal needs
d) there are few trade barriers

The Strategic Role Of Foreign Factories

- The strategic role of foreign factories and the strategic advantage of a particular location can change over time
- Factories initially established to take advantage of low cost labor can evolve into facilities with advanced design capabilities

- Improvement in a facility comes from two sources:

1. pressure to lower costs or respond to local markets
2. an increase in the availability of advanced factors of production

The Strategic Role Of Foreign Factories

- Many companies now see foreign factories as globally dispersed centers of excellence
- This philosophy supports the development of a transnational strategy
- A major aspect of a transnational strategy is a belief in global learning, or the idea that valuable knowledge does not reside just in a firm's domestic operations, it may also be found in its foreign subsidiaries
- This implies that firms are less likely to switch production to new locations simply because some underlying variable like wage rates has changed

Outsourcing Production: Make-or-Buy Decisions

- Should an international business make or buy the component parts to go into their final product?
- Make-or-buy decisions are important factors in many firms' manufacturing strategies
- Today, service firms also face make-or-buy decisions as they choose which activities to outsource and which to keep in-house
- Make-or-buy decisions involving international markets are more complex than those involving domestic markets

The Advantages Of Make

Vertical integration (making component parts in-house) can:

1. lower costs - if a firm is more efficient at that production activity than any other enterprise, it may pay the firm to continue manufacturing a product or component part in-house

2. facilitate investments in highly specialized assets - internal production makes sense when substantial investments in specialized assets (assets whose value is contingent upon a particular relationship persisting) are required to manufacture a component

The Advantages Of Make

3. protect proprietary technology - a firm might prefer to make component parts that contain proprietary technology in-house in order to maintain control over the technology

4. facilitate the scheduling of adjacent processes - the weakest argument for vertical integration is that the resulting production cost savings make planning, coordination, and scheduling of adjacent processes easier

The Advantages Of Buy

Buying component parts from independent suppliers:

1. gives the firm greater flexibility

- By buying component parts from independent suppliers, the firm can maintain its flexibility, switching orders between suppliers as circumstances dictate
- This is particularly important when changes in exchange rates and trade barriers alter the attractiveness of various supply sources over time

The Advantages Of Buy

2. helps drive down the firm's cost structure

Firms that buy components from independent suppliers avoid:

- the challenges involved with coordinating and controlling the additional subunits that are associated with vertical integration
- the lack of incentive associated with internal suppliers
- the difficulties with setting appropriate transfer prices

3. helps the firm capture orders from international customers

- Outsourcing can help firms capture more orders from suppliers' countries

Trade-Offs

The benefits of manufacturing components in-house are greatest when:

- highly specialized assets are involved
- vertical integration is necessary for protecting proprietary technology
- the firm is more efficient than external suppliers at performing a particular activity

Strategic Alliances With Suppliers

- Sometimes, firms can capture the benefits of vertical integration without the associated organizational problems by forming long-term strategic alliances with key suppliers
- However, these commitments may actually limit strategic flexibility

Classroom Performance System

Which of the following is not an advantage of buying from independent suppliers?

a) it gives the firm greater flexibility

b) it helps drive down the firm's cost structure

c) it protects proprietary property

d) it helps the firm to capture orders from international customers

Managing A Global Supply Chain

- Logistics encompasses the activities necessary to get materials to a manufacturing facility, through the manufacturing process, and out through a distribution system to the end user

The objectives of logistics are:

- To manage a global supply chain at the lowest possible cost and in a way that best serves customer needs
- To help the firm establish a competitive advantage through superior customer service

The Role Of Just-in-Time Inventory

- The basic philosophy behind just-in-time (JIT) systems is to economize on inventory holding costs by having materials arrive at a manufacturing plant just in time to enter the production process, and not before
- JIT systems generate major cost savings from reduced warehousing and inventory holding costs
- JIT systems can help the firm spot defective parts and take them out of the manufacturing process to boost product quality
- However, a JIT system leaves the firm with no buffer stock of inventory to meet unexpected demand or supply changes

The Role Of Information Technology And The Internet

- Web-based information systems play a crucial role in materials management
- They allow firms to optimize production scheduling according to when components are expected to arrive

Electronic Data Interchange (EDI):

- facilitates the tracking of inputs
- allows the firm to optimize its production schedule
- lets the firm and its suppliers communicate in real time
- eliminates the flow of paperwork between the firm and its suppliers