

SOLUTIONS MANUAL

A graphic of a spiral-bound notebook. The cover is black with the text 'IMAGE COMING SOON' in white, bold, sans-serif font. The spiral binding is on the left side.

**IMAGE
COMING
SOON**

Chapter 2: Value Chains

Problems, Activities, and Discussions

- (1) Provide an example where you have compared a good or service by its value and compared perceived benefits and price. How did your assessment of value lead to a purchase (or non-purchase) decision?

Students should easily be able to provide examples from their personal experience, such as computers, automobiles, pizza delivery, and mp3 players. This question helps them to internalize the notion of value and better understand how organizations should understand the “voice of the customer.”

- (2) Describe a value chain based upon your work experience, summer job, or as a customer. Sketch a picture of it (as best you can). List suppliers, inputs, resources, outputs, customers and target markets (similar to Exhibits 2.1 or 2.2).

This is a good exercise for students to apply the ideas to an organization with which they are familiar.

- (3) Document the global supply chain for a business of interest to you and sketch out a picture similar to the Procter & Gamble diagram. Why did the organization use global resources to accomplish its goals? Explain.

Similar to Problem 1, this forces the student to think of the key elements of the supply chain, and perhaps to do some research about a particular business. It helps them better understand the global environment in which they will eventually work.

- (4) Research current articles relating to off shoring and outsourcing, focusing on business, operations, *and* political issues. Summarize your findings in a 1-2 page paper.

This exercise is intended to get students reading contemporary business literature and tie the text material to current events.

- (5) What implications have the three waves of outsourcing had for the national and global economy?

Outsourcing is the process of having suppliers provide goods and services that were previously provided internally. Vertical integration is essentially the opposite. The three waves of outsourcing—moving goods-producing jobs abroad, then moving simple service work, and finally moving skilled knowledge work—has certainly improved the global economy and created much technical expertise in other companies, but they have also had detrimental effects for many domestic

workers and in some cases, customers, who have had difficulties communicating with foreign employees, such as call center representatives.

- (6) A firm is evaluating the alternative of manufacturing a part that is currently being outsourced from a supplier. The relevant information is provided below:

For in-house manufacturing

Annual fixed cost = \$45,000

Variable cost per part = \$130

For purchasing from supplier

Purchase price per part = \$160

Using this information, determine the break-even quantity for which the firm would be indifferent between manufacturing the part in-house or outsourcing it.

$$Q^* = \frac{FC}{VC_2 - VC_1} = \frac{\$45,000}{\$160 - \$130} = 1,500 \text{ parts}$$

Variable cost is the same as the purchase price here.

- (7) (a) If demand is forecast to be greater than 1,500 parts, should they make the part in-house or purchase from a supplier?

Whenever the anticipated demand (volume) is greater than Q^* , the firm should produce the part in-house.

- (b) The marketing department forecasts that the upcoming year's demand will be 1,200 units. A new supplier offers to make the parts for \$140 each. Should the company accept the offer?

$$Q^* = \frac{FC}{VC_2 - VC_1} = \frac{\$45,000}{\$140 - \$130} = 4,500 \text{ parts}$$

Whenever the anticipated demand (volume) is less than Q^* , the firm should outsource (purchase) the part.

- (c) What is the maximum price per part the manufacturer should be willing to pay to the supplier if the forecast is 800 parts?

$$\begin{aligned} Q(VC_2 - VC_1) &= FC \text{ or} \\ 800(VC_2 - \$130) &= \$45,000 \\ 800VC_2 - \$104,000 &= \$45,000 \\ 800VC_2 &= \$149,000 \\ VC_2 &= \$186.25 \end{aligned}$$

- (8) One study that focused on the impact of China trade on the U.S. textile industry noted that 19 U.S. textile factories were closed and 26,000 jobs lost in 2004 and 2005. If these factories had not closed, it would have cost U.S. consumers \$6 billion more in higher textile prices. Assuming these facts are true, offer an argument for or against offshoring U.S. jobs.

This is a difficult issue with economic, social, and political consequences. How does one trade off the loss of jobs with national economics? This could be the subject of a classic debate, and students will most likely have strong opinions in either direction.

- (9) Summarize the key issues that managers face with global value chains in comparison with simple, domestic value chains.

- Global supply chains face higher levels of risk and uncertainty, requiring more inventory and day-to-day monitoring to prevent product shortages.
- Transportation is more complex in global value chains.
- The transportation infrastructure may vary considerably in foreign countries.
- Global purchasing can be a difficult process to manage when sources of supply, regional economies, and even governments change.
- International purchasing can lead to disputes and legal challenges relating to such things as price fixing and quality defects.
- Privatizing companies and property is another form of major changes in global trade and regulatory issues.

- (10) Explain why it is important for operations managers to understand the culture and practices of the countries in which a firm does business. What are some of the political consequences if they don't?

Culture defines the unique lifestyle for a nation or region. Since businesses locate their factories, call centers, warehouses, and offices around the world, operations managers need to be sensitive and understand the local culture. Notions of authority, time, color, value, respect, humor, work ethic, manners, and social status may be quite different from one's own norms. See Section 6.3 in OM-02 for cultural differences that impact business operations.

Case Notes: The Risky Outsourcing Decision

Overview

A company is considering outsourcing some software development activities for efficiency and economic reasons; however, the firm's legal counsel is concerned about releasing proprietary information, given negative experiences that other firms have encountered with security and differences in international business practices. This case

situation is an example of an *outpost factory* established to gain access to local employee skills, knowledge, and lower than U.S. wages. Outsourcing is a hot topic with free trade, government policies, and taxation issues. You can also ask students to bring to class examples of good and bad outsourcing results.

Case Questions and Brief Answers

(1) How can they reduce the risk of outsourcing?

Some ideas might be:

- Carefully investigate the political, legal, and cultural nature of countries considered for off-shoring and outsourcing. Give these types of risks more weight in the final decision.
- Establish controls and oversight in the outsourced firm with adequate audits and monitoring.
- Have input into the selection and training of employees to enhance control.
- Place “your managers” at the outsource site to help monitor and control and protect intellectual property.

(2) What should they outsource?

When firms go offshore they lose a certain amount of control. The tradeoff is between lower costs versus less control and more risk of service upsets and fraud. Traditional thinking is that firms should not offshore or outsource their core competencies such as research and development, engineering design, high value-added production processes, and marketing expertise. Yet, the practice is quite widespread. The key issues are risks of confidentiality and intellectual property. Software piracy is rampant in some countries and difficult to control. The risks associated with transaction processing, basic coding, and software maintenance can be less than design and development, where such information can provide unscrupulous competitors with vital information. Outsourcing software development is a R&D function with high risks. If R&D represents a core competency, and it usually does, it is best to not outsource these functions.

(3) What are the outsourcing tradeoffs with respect to performance criteria such as risks, costs, quality, and control?

Costs and control are reduced but risks increase while quality may be better or worst. The tradeoffs are complex and ultimately depend on management judgment. OM is greatly involved in the cost, quality, and control criteria and they must be measured to help make these decisions.

Other best practices w/r to outsourcing include:

- Determine your firm's core competencies (goods, services, processes) and non-core and peripheral (supporting) competencies. Candidates for offshoring and outsourcing are only non-core and peripheral competencies.
- Require extensive analysis of the offshoring decision to understand the potential risks and benefits.
- Understand local culture and attitudes about ethics and acceptable behavior.
- Conduct extensive investigation and background checks for personal in critical positions and accessibility to sensitive information.
- Require CEO and possibly Board of Directors approval.

Teaching Plan

Discuss the three case questions in class. You can also ask students to bring to class examples of outsourcing results and issues. See the chapter box on Chevron Texaco and the Rocky Boots examples. Make sure you highlight the global value chains involved in this case example and the student's examples. End the discussion by asking the students "What role does OM play w/r to costs, quality, control, and risks in a global value chain?"