Lecture Notes

# Chapter 1: Introduction to Managing Global Operations and Supply Chains

## Learning Objectives

## 1.1 Explain how globalization has influenced the management of supply chains and their operations.

## 1.2 Describe the role of operations management within a company and in society.

## 1.3 Trace the path of a raw material from the start of the supply chain to the final consumer.

## 1.4 Explain why it is important to have an integrated view of operations from a larger supply chain framework.

## 1.5 Describe the evolution of operations and supply chain management from the Industrial Revolution to the present.

## 1.6 Identify some of the emerging trends in operations and supply chain management.

## Operations Profile: Intel Uses Quality Control to Achieve World Domination

## Intel, Inc. is the world’s largest manufacturer of microprocessor chips.

## The development and manufacture of computer chips is a fantastic and complex global voyage.

## Quality control practices ensure that Intel’s chips are very nearly identical and of the highest possible quality.

## What sets Intel apart from other manufacturers is its devotion to this process, even copying what may seem to be random elements in its manufacturing centers.

## 1.1 Supply Chains and Operations Management in the Global Economy

## Currently, about two thirds of the businesses operate in global markets.

## More than ever, companies and customers can sell and buy products and services internationally.

## Advancements in IT and the elimination of trade barriers are the main reasons for this phenomenon.

## Globalization means that a business can sell in a foreign country, manufacture products in a foreign land, buy materials from an overseas supplier, operate as franchises, or partner with a foreign company.

### Offshoring

## Offshoring refers to sourcing from overseas or getting work done in a foreign country.

## China has now become the preeminent source of low-cost offshore manufacturing.

## The benefits of offshoring include being able to tap a larger pool of skilled people, get work done faster, and lower a company’s labor costs.

## Risks of offshoring include transfer of jobs to other countries, geopolitical risk, language differences, and poor communication.

### Outsourcing

## Outsourcing refers to contracting with a third party or an external company to manufacture a good or deliver a service.

## The external company may or may not be a foreign company.

## India has now become the hotspot for outsourcing.

## Because of the continuing offshoring and outsourcing, manufacturing in United States has declined from nearly 30% of the gross domestic product (GDP) after World War II to just under 12% by 2017.

## Consider This 1.1: Is American Manufacturing Dead?

## A study\* found that American manufacturers have a better chance of surviving the onslaught of offshoring and outsourcing if they adhere to the following principles:

### Build technologies that cannot be duplicated.

### Bundle value-added services along with manufactured products.

### Manufacture high-quality, high-price goods in-house, and outsource low-profit and labor-intensive work.

## *\**Jacoby, D. (2008, May/June). “Can western manufacturers beat the competition?” *APICS Magazine*, pp. 40–44.

### Globalization, Supply Chains, and Operations Management

## A supply chain is a sequence of interconnected organizations that help develop, produce, distribute, and sell a product to the final consumer.

## A supply chain is often called a value chain.

## Global supply chains are a global network of organizations involved in these activities.

## Operations management (OM) is the process of managing the system of designing, producing, and delivering goods or services that add value throughout the supply chain and benefit the final consumer.

## Consider This 1.2: Why You Should Consider a Career in Operations and Supply Chain Management

## Managing operations and supply chains has become the focus of every senior executive and is at the top of the corporate agenda.

## Graduates with specialization in service operations will be hired to work in diverse areas.

## There are many career opportunities in a variety of organizations for people with these credentials.

## In addition to securing a degree in OM or SCM, you can enhance your education by joining professional organizations, for example, APICS, ISM, ASQ, and so forth, that offer certifications.

## 1.2 What Does Operations Management Entail?

## Each organization in a supply chain has internal operations that it has to manage effectively.

## Managing operations within each company in a supply chain requires planning, organizing, and executing both long-term and short-term tasks.

## Effectively managing operations requires cross-functional cooperation not only within your own company but also with other businesses, or partners, in the supply chain.

## A good is a tangible physical entity.

## Services are intangible and are a set of benefits that may or may not be accompanied by a tangible good.

## The operation functions of most businesses provide a mix of both goods and services.

## OM is a system that transforms inputs into outputs to create value.

## The transformation process can be:

### physical: manufacturing operations

### locational: transportation and warehouse operations

### transactional: banking and retail operations

### physiological: health care

### psychological: entertainment

## Outputs should meet standards for that system.

## Finance provides funding that allows a firm’s operations group to produce products.

## Marketing gathers market intelligence and can provide the operations group with meaningful ideas.

## IT provides the operations group with technical information support.

## HR provides the recruitment, hiring, and training of operations personnel.

## R&D develops product and service ideas for the operations group to pursue.

## Consider This 1.3: Service Operations in India

## India is the world’s leading service provider.

## India has a large pool of highly skilled workers at less than half the cost of developed countries.

## Many Indian companies are global leaders in software development and business processes.

## Many multinational companies such as Microsoft have established operations in India in order to take advantage of India’s low-cost services.

## 1.3 What Does Supply Chain Management Entail?

## A company has to decide which functions to outsource and which functions to perform in-house.

## Companies that choose to locate their manufacturing facilities overseas face logistical problems.

## These companies must also examine these issues from the perspective of the global supply chain.

## The recent financial turmoil and economic turbulence have made the job of managing supply chains even more complex.

### Supply Chain Structures and Partners

## first-tier suppliers

## second-tier suppliers

## inbound storage

## outbound storage

## wholesalers and retailers

## final consumers

## Operations Profile: Zara: Bringing Speed to Fashion Through Supply Chain Management

## It takes Zara 3 weeks to spot, design, manufacture, and ship one of the 300,000 different pieces of clothing it sells to stores each year.

## The promotion attracts shoppers who know that if they hesitate, the style will be gone.

## The secret to Zara’s success is a well-developed supply chain that includes the firm’s own retail stores, distribution centers, a design and manufacturing center, and textile-milling factories.

## 1.4 An Integrated Perspective on Operations and Supply Chain Management

## Both operations management and supply chain management have the same goal.

## Firms often integrate the two.

## Understanding how this is done begins with firm understanding of decisions made in managing operations and supply chains.

## Operations Profile: Lessons Learned: Apple Puts All Its Eggs in One (Very Expensive) Basket

## GT was Apple’s sole supplier of the super-hard sapphire smartphone screen.

## Apple was so set on this technology that it formed a JV with GT to build a $1 billion manufacturing plant.

## GT, in August 2014, sought bankruptcy protection.

## Apple’s response to this disaster was to use the standard glass screen for the iPhone release.

## Apple continues to seek out a source for the screens, but it has learned a hard lesson about using a sole-source supplier.

## 1.5 The Evolution of Operations and Supply Chain Management

## The concept of production is as old as humanity itself.

## Production during those early days was performed by skilled artisans who produced customized goods for individual customers.

## Large-scale production of consumer goods began during the Industrial Revolution.

## During the 20th century most operations innovations occurred.

## TQM focuses on continuously improving the quality of a company’s products and processes.

## Six Sigma centers around improving quality through reducing the number of defects.

## Lean manufacturing is built on the idea of eliminating non-value-added (waste) activities.

## Agile manufacturing is the ability of an organization to respond quickly to market changes.

## BPR is the radical redesign of a firm’s existing workflows and resources to reduce operational costs and better meet the needs of customers.

## 1.6 Current and Emerging Issues in Operations and Supply Chain Management

## Continuous optimization of resources to eliminate waste and maximize productivity.

## Greater supply chain risks and supply chain restructuring.

## Use of technology to improve supply chain visibility and performance.

### Sustainability

## Corporate social responsibility (CSR) is the process of incorporating the interests of the public into a company’s core business.

## One of the principles of CSR is that companies should make decisions with an eye toward what is good for the triple bottom line.

## Triple bottom line consists of people, the planet (environmental impact), and profits.