

Supply Chain Management

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MGM 660

Lecture 9



Sourcing decisions in a supply chain

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Course Agenda

Chapter

1. To discuss the Scope of Procurement.
2. Explain the role of sourcing in supply chain management.
3. Understand the strategic importance of sourcing decisions.
4. Differentiate between sourcing strategies.
5. Evaluate supplier selection criteria.
6. Compare outsourcing and insourcing.
7. Understand global sourcing challenges.
8. Analyze sourcing risks and mitigation strategies.
9. Apply sourcing concepts to real companies.

- **Refers** to the raw materials, component parts, and supplies bought from outside organizations to support a company's operations
 - Procurement costs often range between 60%-80% of an organization's revenues
 - Currently has a more strategic orientation in many organizations
- ❑ **Procurement manager may have responsibility for:**
- Reducing cycle times
 - Playing an integral role in product development
 - Generating additional revenues through collaboration with the marketing department

What is Procurement?

- **Procurement** – The process of acquiring and evaluating goods and services beginning with determining needs through product utilization, conclusion of contracted service, or until the end of the useful life of a capital equipment item.
- **Purchasing** – The process of “buying:” placing an order, receiving a product or service, and paying the supplier.

What is Procurement?

- **Procurement** involves a more comprehensive scope of activities than does “purchasing”.
- The term “**purchasing**” is most similar to the term buying.
- Those with procurement responsibilities have two primary concerns: to identify and secure the products and services that will best allow the organization to meet the wants and needs of its customers, and to obtain them at a fair price.

Objectives of Effective Procurement

- Obtain the right **product** or **service** at the right **price** from the right **source** in the right **quantity** at the right **time**.

What is Sourcing?

Sourcing is the process of selecting suppliers and determining where and how products, materials, and services will be obtained.

It answers questions such as:

- Who should supply us?
- Where should we buy from?
- How many suppliers should we use?
- Should we produce internally or outsource?
- Should we source locally or globally?

Why is sourcing important?

Good sourcing decisions can

- Reduce costs
- Improve quality
- Increase flexibility
- Reduce risk
- Improve innovation
- Improve customer service

Why is sourcing important?

Example

Apple

- Designs products internally
- Sources processors from **TSMC**
- Displays from Samsung and **LG**
- Assembles products through **Foxconn**

Apple focuses on innovation while suppliers provide manufacturing expertise.

Companies source to achieve:

- Lower purchasing costs
- Better quality
- Reliable deliveries
- Supplier innovation
- Shorter lead times
- Risk reduction
- Sustainability
- Competitive advantage

A. Single Sourcing

Only one supplier.

Advantages

- Strong relationship
- Better quality
- Lower coordination cost
- Volume discounts

Disadvantages

- High dependency
- Supply disruption risk

Company Example

Toyota often uses long-term partnerships with strategic suppliers.

B. Multiple Sourcing

Several suppliers provide the same item.

Advantages

- Lower risk
- Increased competition
- Better availability

Disadvantages

- Higher management effort
- Less collaboration

Example

Hospitals purchasing medical gloves from several suppliers.

C. Sole Sourcing

Only one supplier exists because of patents or technology.

Example

A patented pharmaceutical ingredient.

D. Dual Sourcing

Two suppliers provide the same product.

Benefits

- Backup supplier
- Risk reduction
- Moderate competition

Insourcing

Company performs activities internally.

Advantages

- Better control
- Protects intellectual property
- Better quality control

Disadvantages

- Higher investment
- Higher operating costs

Outsourcing

External suppliers perform activities.

Advantages

- Lower costs
- Access to expertise
- Focus on core competencies

Disadvantages

- Loss of control
- Quality problems
- Supplier dependence

Nike

- Product design internally
- Manufacturing outsourced

Apple

- Product development internally
- Assembly outsourced

- **Increase supply chain surplus through**

1. Capacity aggregation
2. Inventory aggregation
3. Transportation aggregation by transportation intermediaries
4. Transportation aggregation by storage intermediaries
5. Warehousing aggregation
6. Procurement aggregation
7. Information aggregation
8. Receivables aggregation
9. Relationship aggregation
10. Lower costs and higher quality

One of the most important sourcing decisions.

Should the company produce internally or purchase externally?

Factors

Cost

Quality

Capacity

Technology

Expertise

Strategic importance

Confidentiality

Risk

Example- Tesla

Makes batteries with partners while purchasing many electronic components from suppliers

Local Sourcing

Buying from domestic suppliers.

Advantages

- Short lead times
- Easier communication
- Lower transportation costs
- Better responsiveness

Disadvantages

- Higher prices
- Limited supplier options

Global Sourcing

Buying internationally.

Advantages

- Lower production costs
- More supplier choices
- Access to advanced technology

Disadvantages

- Long lead times
- Exchange-rate fluctuations
- Political risks
- Customs delays

- **Example**

- **Starbucks** sources coffee globally.

Nearshoring, Offshoring, and Onshoring

Offshoring

Moving production to distant countries.

Example

US company manufacturing in Vietnam.

Nearshoring

Moving production closer.

Example

US company manufacturing in Mexico.

Onshoring

Returning production to the home country.

Example

European companies moving production back from Asia.

Example 1: General Motors (GM)

Industry: Automotive

GM has invested billions of dollars to manufacture electric vehicles (EVs) and batteries in the United States instead of relying solely on overseas production.

Reason

- Reduce supply chain disruptions
- Support domestic manufacturing
- Meet government incentives
- Improve responsiveness

Example 2: Intel

Industry: Semiconductor

Intel has expanded semiconductor manufacturing in the United States by building new fabrication plants.

Reason

- Increase supply chain security
- Reduce dependence on overseas chip manufacturers
- Support national semiconductor production

Example 1: Tesla

Industry: Automotive

Tesla manufactures vehicles in Mexico to serve the North American market.

Benefits

- Lower production costs
- Close proximity to U.S. customers
- Reduced transportation time
- Faster delivery

Example 2: Whirlpool

Whirlpool operates manufacturing facilities in Mexico to supply the U.S. market.

Reason

- Lower labor costs than the U.S.
- Short shipping distance
- Quick replenishment

Examples of Make-or-Buy Decision (Offshoring)

Example 1: Apple

Industry: Consumer Electronics

Apple designs products in the United States but assembles many products in China through manufacturing partners such as Foxconn and other suppliers.

Reason

- Lower manufacturing costs
- Highly skilled electronics manufacturing ecosystem
- Large production capacity

Example 2: Nike

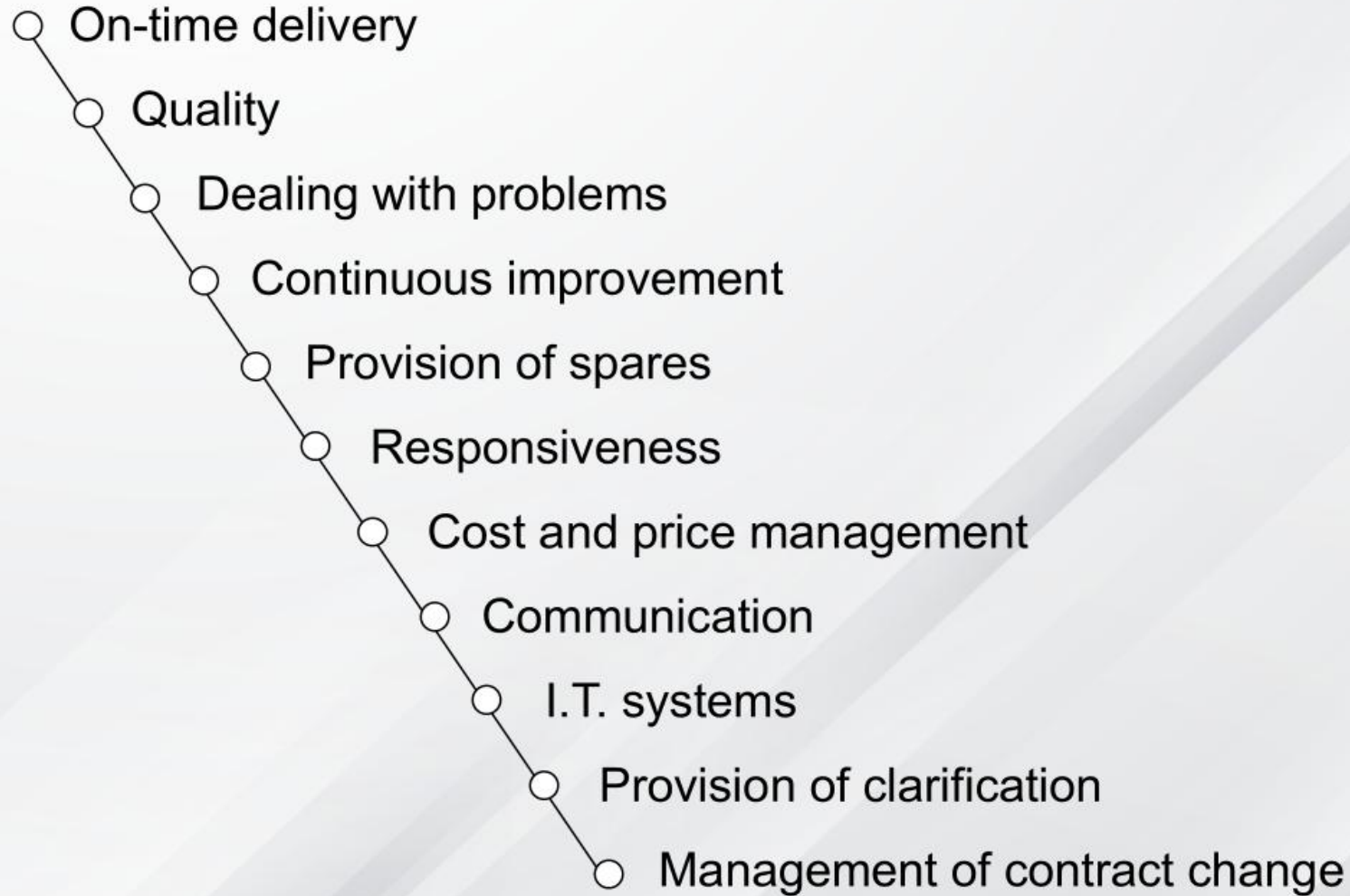
Industry: Sportswear

Nike outsources manufacturing to factories in countries such as Vietnam, Indonesia, and China.

Benefits

- Lower production costs
- Large manufacturing capacity
- Flexibility during seasonal demand

Supplier performance – Possible factors to evaluate



- Quality and process control
 - Continuous improvement
 - Facility environment
 - Customer relationship
 - Delivery
 - Inventory and warehousing
 - Ordering
 - Financial conditions
 - Certifications
 - Price

Supplier Evaluation Matrix

Criteria	Weight	Supplier A	Supplier B
Price	20%	8	9
Quality	30%	10	8
Delivery	20%	9	7
Technology	15%	8	10
Sustainability	15%	9	8

- Not all suppliers should be managed the same way.
- Supplier Relationship Management (SRM) aims to optimize the total value created across the buyer–supplier relationship

Relationship types

- Strategic partnership
- Long-term contracts
- Transactional purchasing
- Collaborative sourcing

Example

Toyota develops suppliers through continuous improvement.

Toyota – Long-Term Strategic Partnerships

Industry

Automotive

SRM Practice

Toyota builds long-term relationships with key suppliers instead of frequently changing them. The company works closely with suppliers to improve quality, reduce costs, and eliminate waste using Lean Manufacturing and the Toyota Production System (TPS).

Example

- Engineers from Toyota regularly visit supplier facilities.
- Toyota shares production schedules and demand forecasts.
- Suppliers participate in continuous improvement (Kaizen) programs.

Benefits

- High product quality
- Reduced inventory
- Reliable deliveries
- Strong supplier loyalty

Apple – Supplier Performance Management

Industry

Consumer Electronics

SRM Practice

Apple collaborates closely with strategic suppliers such as TSMC, Foxconn, Samsung, and LG.

Example

- Conducts regular supplier audits.
- Measures supplier performance on quality, delivery, sustainability, and labor practices.
- Provides technical support for process improvements.
- Shares future product forecasts with key suppliers.

Benefits

- High product quality
- Faster product launches
- Reliable supply of advanced components
- Better supplier innovation

Strategic Sourcing

Strategic sourcing is a long-term purchasing process focused on obtaining maximum value.

Steps

1. Analyze spending
2. Understand demand
3. Analyze supply market
4. Select suppliers
5. Negotiate contracts
6. Monitor supplier performance
7. Continuous improvement

Risks in Sourcing

Major sourcing risks include

- Supplier bankruptcy
- Natural disasters
- Political instability
- Pandemics
- Transportation disruption
- Quality failures
- Cybersecurity threats
- Currency fluctuations

Example

COVID-19 disrupted global sourcing because factories closed and shipping was delayed.

Companies reduce sourcing risk through

- Multiple sourcing
- Safety stock
- Backup suppliers
- Supplier audits
- Long-term contracts
- Digital supplier visibility
- Geographic diversification
- Nearshoring

Modern sourcing also considers

- Environmental protection
- Ethical labor practices
- Human rights
- Carbon emissions
- Supplier diversity
- Circular economy

Example

Unilever requires suppliers to meet sustainability standards.

Technology is transforming sourcing through

- Artificial Intelligence (AI)
- Machine Learning
- Blockchain
- Big Data Analytics
- IoT
- Digital Procurement Platforms
- e-Sourcing
- e-Auctions
- Supplier Portals
- Robotic Process Automation (RPA)

Apple

- Strategic outsourcing
- Global sourcing
- Supplier diversification
- Strong supplier monitoring

Toyota

- Long-term supplier relationships
- Lean sourcing
- Supplier development
- Just-in-Time purchasing

Zara

- Nearshoring
- Local sourcing for fashion responsiveness
- Fast supplier collaboration

Amazon

- Global supplier network
- AI-driven sourcing
- Supplier performance analytics

- About 80% of the cost of a product is determined during design
- Suppliers should be actively involved at this stage
- 50-70% of spending at a manufacturer comes from procurement
- 80% of the cost of a purchased part is fixed in the design phase
- Design collaboration with suppliers can result in reduced cost, improved quality, and decreased time to market
- Design for logistics, design for manufacturability
- **ESI has been defined as:**
 - A practice that brings together one or more selected suppliers with a buyer's product design team early in the product development process.
 - The objective is to utilise the supplier's expertise and experience in developing a product specification that is designed for effective and efficient product roll-out.₃₈

Third- and Fourth-Party Logistics Providers

- **Third-party logistics (3PL)** providers performs one or more of the logistics activities relating to the flow of product, information, and funds that could be performed by the firm itself
- **A 4PL (fourth-party logistics)** designs, builds and runs the entire supply chain process

Third- and Fourth-Party Logistics Providers

Service Category	Basic Service	Some Specific Value-Added Services
Transportation	Inbound, outbound by ship, truck, rail, air	Tendering, track/trace, mode conversion, dispatch, freight pay, contract management
Warehousing	Storage, facilities management	Cross-dock, in-transit merge, pool distribution across firms, pick/pack, kitting, inventory control, labeling, order fulfillment, home delivery of catalog orders
Information technology	Provide and maintain advanced information/computer systems	Transportation management systems, warehousing management, network modeling and site selection, freight bill payment, automated broker interfaces, end-to-end matching, forecasting, EDI, worldwide track and trace, global visibility
Reverse logistics	Handle reverse flows	Recycling, used-asset disposition, customer returns, returnable container management, repair/refurbish
Other 3PL services		Brokering, freight forwarding, purchase-order management, order taking, loss and damage claims, freight bill audits, consulting, time-definite delivery
International		Customs brokering, port services, export crating, consolidation
Special skills/handling		Hazardous materials, temperature controlled, package/parcel delivery, food-grade facilities/equipment, bulk

Using Total Cost to Score and Assess Suppliers

Performance Category	Category Components	Quantifiable?
Supplier price	Labor, material, overhead, local taxes, and compliance costs	Yes
Supplier terms	Net payment terms, delivery frequency, minimum lot size, quantity discounts	Yes
Delivery costs	All transportation costs from source to destination, packaging costs	Yes
Inventory costs	Supplier inventory, including raw material, in process and finished goods, in-transit inventory, finished goods inventory in supply chain	Yes
Warehousing cost	Warehousing and material handling costs to support additional inventory	Yes
Quality costs	Cost of inspection, rework, product returns	Yes
Reputation	Reputation impact of quality problems	No
Other costs	Exchange rate trends, taxes, duties	Yes
Support	Management overhead and administrative support	Difficult
Supplier capabilities	Replenishment lead time, on-time performance, flexibility, information coordination capability, design coordination capability, supplier viability	To some extent

Designing a Sourcing Portfolio: Tailored Sourcing

- **Options with regard to whom and where to source from**
 - **Produce in-house or outsource to a third party**
 - **Will the source be cost efficient or responsive**
 - **Onshoring, near-shoring, and offshoring**
- **Tailor supplier portfolio based on a variety of product and market characteristics**

Designing a Sourcing Portfolio: Tailored Sourcing

	Responsive Source	Low-Cost Source
Product life cycle	Early phase	Mature phase
Demand volatility	High	Low
Demand volume	Low	High
Product value	High	Low
Rate of product obsolescence	High	Low
Desired quality	High	Low to medium
Engineering/design support	High	Low

Designing a Sourcing Portfolio: Tailored Sourcing

	Onshore	Near-shore	Offshore
Rate of innovation/product variety	High	Medium to High	Low
Demand volatility	High	Medium to High	Low
Labor content	Low	Medium to High	High
Volume or weight-to-value ratio	High	High	Low
Impact of supply chain disruption	High	Medium to High	Low
Inventory costs	High	Medium to High	Low
Engineering/management support	High	High	Low

Making Sourcing Decisions in Practice

1. Sourcing is a strategic supply chain decision that influences cost, quality, flexibility, and competitiveness.
2. Companies must balance cost with quality, risk, innovation, and sustainability.
3. Common sourcing strategies include single, multiple, sole, and dual sourcing, as well as insourcing versus outsourcing.
4. Global sourcing offers cost advantages but introduces additional risks, while local and nearshore sourcing improve responsiveness.
5. Effective supplier selection uses multiple criteria rather than price alone.
6. Digital technologies such as AI, blockchain, and analytics are transforming sourcing decisions and supplier management.
7. Building strong supplier relationships and proactively managing sourcing risks are essential for long-term supply chain resilience.

Summary of Learning Objectives

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Thank You