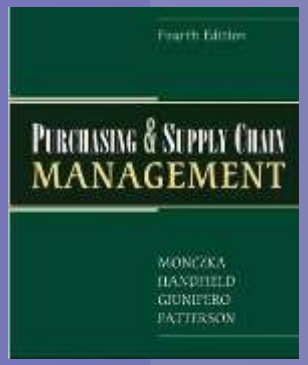
Supplier Evaluation and Selection

Chapter 7



CENGAGE LEARNING
Monczka – Handfield – Giunipero – Patterson

The Right SC Partner Matters

- One supplier decision can determine your **competitive advantage**.
- Did you know? **70-80%** of the total cost is influenced by supply chain decisions.
- Your supplier selection today shapes your **profitability tomorrow**.
- Supply chains that practice early supplier involvement achieve, on average, a 20% reduction in material **cost**, a 20% improvement in material **quality**, and a 20% reduction in **development time.**

Monczka, Trent, & Handfield, (2005)
Ketchen Jr, D. J., Rebarick, W., Hult, G. T. M., & Meyer, D. (2008).

Supplier Selection Dilemma

Supplier A: Low Cost

- Price: 15% below market
- Lead time: 12 weeks
- Financial stability: Unclear
- No long-term commitment

Supplier B: Stable Partner

- Price: Market standard
- Lead time: 6 weeks
- ISO 9001, strong financials
- Proven 5-year track record

Open Discussion

1. What criteria matter most?
2. How do we measure supplier capability?
3. Should strategy differ by commodity?

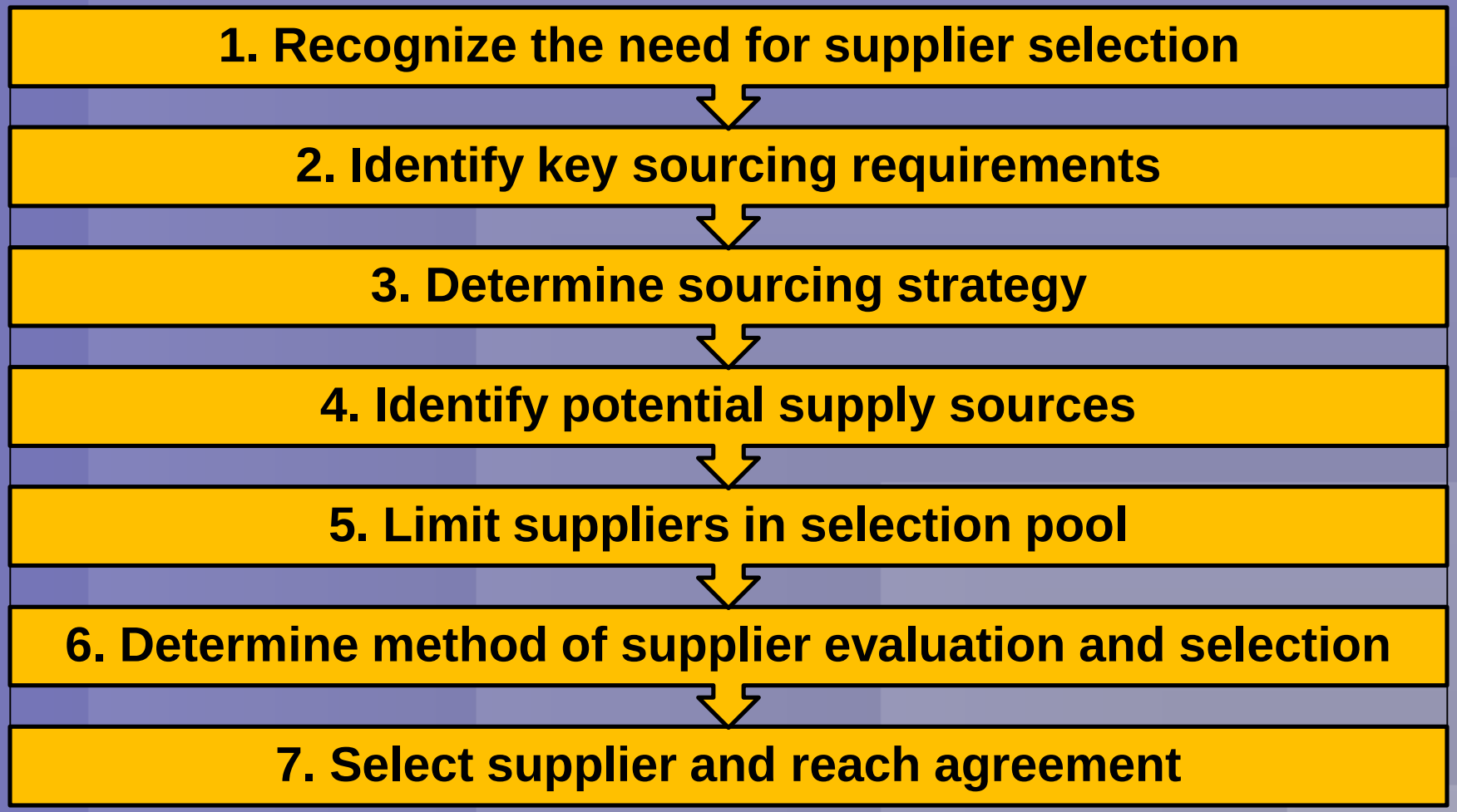
Chapter Overview

- **Supplier** evaluation and selection process
- Key supplier **evaluation** criteria
- Developing a supplier evaluation and selection survey
- Critical supplier **selection issues**
- Reducing supplier evaluation and selection cycle time

Evaluation and Selection Process

- No “one best way.”
- Overall objective is to reduce **sourcing risk** and **maximize value** to the buyer
- Need to select suppliers for the **long-term**

Supplier Selection and Evaluation



1. Need of supplier selection

- During **new product** development
- Due to **poor existing** supplier performance
- At the **end** of an existing contract
- Buying **new equipment**
- Expanding into **new markets** or product lines

1. Need of supplier selection

- Performing market tests
- Facing **countertrade** requirements
- During **outsourcing** analysis
- **Consolidating** volumes
- Conducting a **reverse auction**
- When current suppliers have **insufficient capacity**
- Reducing **supply base size**

2. Identify Key Sourcing Requirements

- May be determined by internal and external customers
  - Supplier quality
  - Cost
  - Delivery performance
  - Other
- Vary widely from item to item

3. Determine Sourcing Strategy

- **Single vs. multiple** sourcing
- **Short-term vs. long-term** contracts
- **Design support vs. operational** support
- **Full-service** vs. non-full-service suppliers
- Domestic vs. foreign-based suppliers
- Collaboration vs. arm's length relationship

4. Identify Potential Sources

- **How well** existing suppliers can satisfy cost, quality, and/or other performance objectives
- **Strategic importance** of purchase requirement
- **Technical complexity** of purchase requirement

4. Information Search Requirements

	High Capability of Suppliers	*Low Capability of Suppliers*
High Strategic Importance to Buyer	**Minor to Moderate Information Search**	**Major Information Search**
Low Strategic Importance to Buyer	**Minor Information Search**	**Minor to Moderate Information Search**

Sources of Information

- Current suppliers
- Preferred suppliers
- Sales representatives
- Information databases
- Experience
- Trade journals
- Trade directories
- Trade shows
- Second-party or indirect information
- Internal sources
- Internet searches

Sourcing Alternatives

- Manufacturer vs. distributor
  - Vendor-managed inventory
  - Integrated supply
- Local, national, or **international** suppliers
- Large vs. small suppliers
  - **Capability**
- Multiple vs. single **sourcing**

Honda Case Example

Honda built assembly plants in the US (e.g., Ohio) and needed a network of local suppliers for key components such as engines, transmissions, and chassis parts.

Strategic Goal: Because quality and delivery are critical in automotive, supplier selection and evaluation were treated as a strategic process, not just a price comparison.

Selection Criteria: Cost, quality, delivery, technology, management, and culture.

Honda Case Example (Selection)

1. Long list: Existing global and local candidates.
2. Pre-qualification: financial and basic capability.
3. Cross-functional audits at the plant: production, quality, maintenance, logistics.
4. Scoring on a weighted scorecard; only top-ranked suppliers invited to quote.
5. Pilot production: After advanced product quality planning (APQP) and before awarding full volume, Honda requires suppliers to run a pilot production lot under real conditions and submit the Production part approval process (PPAP). Only if the pilot parts and data meet requirements does Honda approve the supplier for serial production.

Honda Case Example

Ongoing supplier evaluation strategy: Once selected, Honda used a formal supplier performance evaluation system:

- Monthly metrics: PPM defects, on-time delivery, responsiveness to problems.
- Annual evaluations combining quantitative scores with plant-visit assessments.
- Set joint improvement targets (cost, scrap, changeover time).

5. Limit Suppliers in Selection Pool

Financial risk analysis:

A PAYDEX score is Dun & Bradstreet's 1–100 rating that shows how quickly a business pays its bills. Companies use it to assess a supplier's payment behavior and its financial reliability.

- **80–100: pays on time or earlier than terms (low risk).**
- **50–79: sometimes late, 30 days (moderate risk).**
- **Below 50: very late, 30–90 days (high risk).**

E.g., Supplier A: PAYDEX 85, SER 2 → pays bills on time, low risk of failure.

- **Supplier B: PAYDEX 55, SER 7 → often pays late, higher risk of financial trouble.**

5. Limit Suppliers in Selection Pool

- **Evaluation** of supplier performance
  - For existing suppliers
- Evaluation of supplier-provided
- **information**
  - Preliminary surveys (entry qualifiers)
  - RFIs, RFPs, or RFQs

6. Method of Evaluation and Selection

- Evaluation from **supplier-provided information**
- **Supplier visits**
- Use of preferred suppliers
- External or third-party **information**

Key Suppliers Evaluation Criteria

- Price, quality, and delivery
- Management capability
- Employees capabilities
- Cost structure
- Total quality performance, systems, and philosophy
- Process and technological capability

Key Suppliers Evaluation Criteria

- Environmental regulation compliance
- **Financial** stability
- Production scheduling and control systems
- **E-commerce** capability
- Supplier's sourcing strategies, **policies**, and techniques
- Longer-term **relationship** potential

Financial Stability

- Often used as a **screening process** in the initial selection phase
- **Risks** of a financially weak supplier
  - Supplier will go out of business
  - Insufficient resources to invest in improved plant and equipment
  - Supplier may become too dependent on buyer
  - May be an indicator of other problems

Management Capabilities

- **Does management practice long-range planning?**
- **Has management committed to total quality management and continuous improvement?**
- **How high is management turnover?**
  Supplier A has had three plant managers in two years and frequent changes in quality heads—this is a red flag compared to Supplier B, whose leadership team has been stable for 8–10 years.
- **Professional and educational backgrounds of key managers?**

Management Capabilities

- What is the **organization's vision**?
- Is the company **customer**-focused?
- What is the history of **labor**-management relations?
- Is the organization making **necessary capital investments**?

Employee Capabilities

- Degree of commitment to **quality** and continuous improvement
- Overall **skills** and abilities
- Employee-management relations
- **Worker flexibility**
- Workforce turnover: Fixed, temporary, Social security, pension, etc.

Challenges of Total Cost Analysis

- **Supplier may not understand its true costs, e.g.,** their prices are based on guesses rather than solid numbers.
- **Unsophisticated cost accounting system.** Simple or outdated (basic spreadsheets, single overhead rate, no activity-based costing), so it cannot produce accurate cost breakdowns.
- **Supplier is concerned about potential misuse of its cost data?**

Total Quality Performance

- Management commitment
- Use of **SPC** techniques
- Level of **defects**
- Safety, training, and maintenance
- Use of **MBNQA and ISO 9000 criteria**

Process and Technological Capability

- Level of **technology**, design capability, methods used, and equipment
- Resources committed to **R&D**

Environmental Compliance

- Hazardous and toxic waste generation and management
- Recycling management
- ISO **14000 certification**
- **CO2** counting
- **Sustainability** index

Production Scheduling and Control

- Does the supplier use **MRP or JIT**?
- Does the supplier **track material** and production cycle times?
- What is the supplier's on-time delivery **performance**?

E-Commerce Capability

- **Web-based B2B vs. EDI systems:**

e.g., Supplier logs in to a website to view POs, update status, ship, and invoice. Electronic data interchange (EDI) systems: System-to-system exchange of structured documents (PO, ASN, invoice) between your ERP and the supplier's ERP, without manual keying.

- **Does the supplier have CAD capability?**

- **Does the supplier use RFID?**

Supplier's Supply Base Strategies

- **The supplier's supply base is important to analyze, which affects risk, quality, and collaboration for you.**

- **Sharing of information** (Centralized vs Decentralized)

- **Development of supply chain: tracing, communication, improvements, etc.**

Potential for Long-Term Relationships

- When in the **design phase** can the supplier participate?
- Can the supplier **participate in joint** problem-solving and improvement?
- Will there be free and open **information sharing**?
- Can the supplier maintain the buyer's need for **confidentiality**?

Initial Supplier Evaluation

Category	Weight	Subweight	Score (1 - 5 scale)	Weighted Score	Subtotal
Quality Systems	20				
Process control systems		5	4	4.0	
Total quality commitment		8	4	6.4	
PPM defect performance		7	5	7.0	17.4
Management Capability	10				
Management/labor relations		5	4	4.0	
Management capability		5	4	4.0	8.0
Financial Condition	10				
Debt structure		5	3	3.0	
Turnover ratios		5	4	4.0	7.0
Cost Structure	15				
Costs relative to industry		5	5	5.0	
Understanding of costs		5	4	4.0	
Cost control/reduction efforts		5	5	5.0	14.0
Delivery Performance	15				
Performance to promise		5	3	3.0	
Lead-time requirements		5	3	3.0	
Responsiveness		5	3	3.0	9.0
Technical/Process Capability	15				
Product innovation		5	4	4.0	
Process innovation		5	5	5.0	
research and development		5	5	5.0	14.0
Information Systems Capability	5				
EDI capability		3	5	3.0	
CAD/CAM		2	0	0.0	3.0
General	10				
Support of minority suppliers		2	3	1.2	
Environmental compliance		3	5	3.0	
Supply base management		5	4	4.0	8.2
				Total Score	80.6

A Good Supplier Does the Following:

- Builds **quality** into the product, aiming for **zero defects**
- Makes delivery **performance** a priority
- Demonstrates **responsiveness** to a buyer's needs
- **Works with the buyer** to reduce lead times
- Provides the buyer with capability and workload **information**
- Creates the **future**