

Operations and Supply Chain Strategies

Chapter 2



2 Chapter Objectives

Be able to:

- Explain the relationship between business strategies and functional strategies and the difference between structural and infrastructural elements of the business.
- Describe the main operations and supply chain decision categories.
- Explain the concept of customer value and calculate a value index score.
- Differentiate between order winners and qualifiers and explain why this difference is important to developing the operations and supply chain strategy for a firm.
- Discuss the concept of trade-offs and give an example.
- Define *core competencies* and give an example of how core competencies in the operations and supply chain areas can be used for competitive advantage.
- Explain the importance of strategic alignment and describe the four stages of alignment between the operations and supply chain strategy and the business strategy.

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2 Business Elements

Structural

(Tangible)

- Buildings
- Equipment
- Computer systems
- Other capital assets

Infrastructural

(Intangible)

- People
- Policies
- Decision rules
- Organizational structure

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2 Definitions

- **Strategies** - The mechanisms by which businesses coordinate their decisions regarding their structural and infrastructural elements.
- **Mission Statement** - Explains why an organization exists and what is important to the organization (its core values) and identifies the organization's domain.

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Definitions

- **Business Strategy** - The strategy that identifies a firm's targeted customers and sets time frames and performance objectives for the business.
- **Functional Strategy** - A strategy that translates a business strategy into specific functional areas.
- **Core Competency** - An organizational strength or ability that customers find valuable and competitors find difficult or impossible to copy.

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A Top-Down Model of Strategy

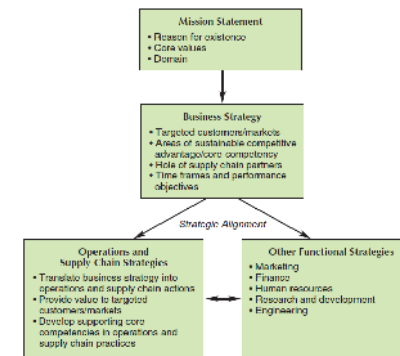


Figure 2.1

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Operations and Supply Chain Strategies

The operations and supply chain strategy is a functional strategy that indicates how the structural and infrastructural elements within the operations and supply chain areas will be acquired and developed to support the overall business strategy.

- What mix of structural and infrastructural elements ?
- Is the mix aligned with the business strategy?
- Does it support the development of core competencies?

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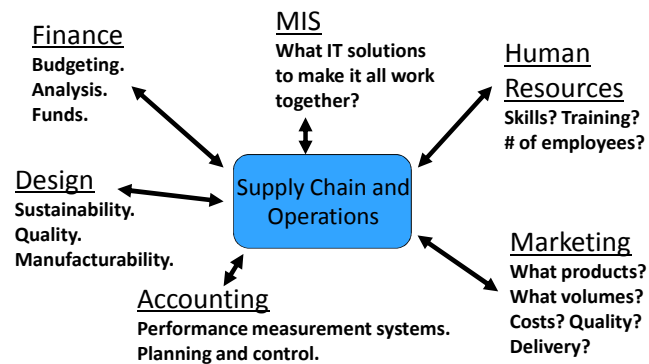
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Functional Strategy

- Translates the business strategy into functional terms.
- Assures coordination with other areas.
- Provides direction and guidance for operations and supply chain decisions.

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2 Key Interactions



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2 Decisions Guided by the Structural Strategy

Capacity

- Amount, Type, Timing

Facilities

- Services/Manufacturing, Warehouses, Distribution hubs
- Size, location, degree of specialization

Technology

- Services/Manufacturing, Material handling equipment, Transportation equipment, Information systems

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2 Decisions Guided by the Infrastructural Strategy

Organization

- Structure, Control/reward systems, Workforce decisions

Sourcing/Purchasing

- Sourcing strategies, Supplier selection, Supplier performance measurement

Planning and Control

- Forecasting, Tactical planning, Inventory management, Production planning and control

Business Processes and Quality Management

- Six Sigma, Continuous improvement, Statistical process control

Product and service development

- The developmental process, Organizational and supplier roles

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2 Customer Value

- **Value Analysis** - A process for assessing the value of a product or service.

- **Value Index** - A measure that uses the performance and importance scores for various dimensions of performance for an item or a service to calculate a score that indicates the overall value of an item or a service to a customer.

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Value Index Determination

$$V = \sum_{i=1}^n I_n P_n$$

Where:

V = Value index for product or service

I_n = Importance of dimension n

P_n = Performance with regard to dimension n

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Value Analysis: Introduce new product?

Threshold score = 720

| Performance Criterion | Importance (A) | Score (B) | Value (A x B) |
|--------------------------|----------------|-----------|---------------|
| Market potential | 30 | | |
| Unit profit margin | 20 | | |
| Operations compatibility | 20 | | |
| Competitive advantage | 15 | | |
| Investment requirement | 10 | | |
| Project risk | 5 | | |
| | 100% | | |

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2

Value Analysis: Introduce new product?

Threshold score = 720

| Performance Criterion | Importance (A) | Score (B) | Value (A x B) |
|--------------------------|----------------|-----------|---------------|
| Market potential | 30 | 6 | |
| Unit profit margin | 20 | 10 | |
| Operations compatibility | 20 | 6 | |
| Competitive advantage | 15 | 10 | |
| Investment requirement | 10 | 3 | |
| Project risk | 5 | 4 | |

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Value Analysis: Introduce new product?

Threshold score = 720

| Performance Criterion | Importance (A) | Score (B) | Value (A x B) |
|--------------------------|----------------|-----------|---------------|
| Market potential | 30 | 6 | 180 |
| Unit profit margin | 20 | 10 | 200 |
| Operations compatibility | 20 | 6 | 120 |
| Competitive advantage | 15 | 10 | 150 |
| Investment requirement | 10 | 3 | 30 |
| Project risk | 5 | 4 | 20 |
| Value Index = | | | <u>700</u> |

Not at this time!

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2 Four Performance Dimensions

Quality
Time
Flexibility
Cost

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2 Four Performance Dimensions

▪ **Quality**

- Performance Quality – The basic operating characteristics of the product or service.
- Conformance Quality – Was the product made or the service performed to specifications?
- Reliability Quality – Will a product work for a long time without failing?

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2 Four Performance Dimensions

▪ **Time**

- Delivery Speed - The ability for the operations or supply chain function to quickly fulfill a need once it has been identified.
- Delivery Reliability – The ability to deliver products or services when promised.

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2 Four Performance Dimensions

▪ **Flexibility**

- Mix Flexibility – The ability to produce a wide range of products or services.
- Changeover Flexibility – The ability to produce a new product with minimal delay.
- Volume Flexibility – The ability to produce whatever volume the customer needs.

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2 Four Performance Dimensions

■ Cost

- Labor costs
- Material costs
- Engineering costs
- Quality-related costs

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2 Trade-offs among Performance Dimensions

- Generally very difficult to excel at all four performance dimensions.
- Some common conflicts
 - Low cost versus high quality
 - Low cost versus flexibility
 - Delivery reliability versus flexibility
 - Conformance quality versus product flexibility

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2 Order Winners and Order Qualifiers

■ Order Winners

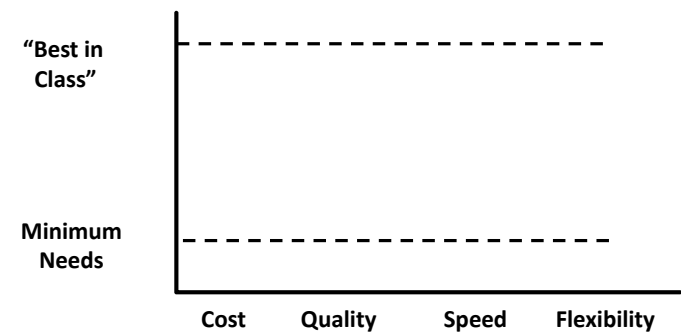
A performance dimension that differentiates a company's products and services from its competitors.

■ Order Qualifiers

A performance dimension on which customers expect a minimum level of performance to be considered.

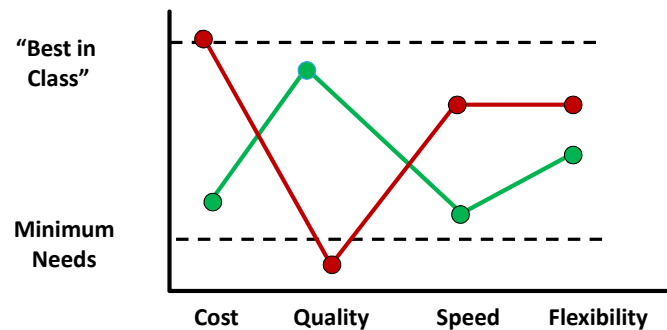
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2 The Idea Behind Prioritizing



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2 Comparing Two Software Development Firms



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2 Measurements

- Performance against
 - Customer needs
 - Business objectives or standards
- Comparisons to competitors
- Comparisons to “best in class”

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2 Stages of Alignment Between Supply Chain and Operations Strategies

- **Stage 1 – Internally neutral**
 - Minimize negative potential in the operations and supply chain areas.
- **Stage 2 – Externally neutral**
 - Follow industry practice.
- **Stage 3 – Internally supportive**
 - Align structural and infrastructural elements with business strategy.
- **Stage 4 – Externally supportive**
 - Seek to exploit core competencies.

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2 Closing the Loop Between Business Strategy and Functional Area Strategies

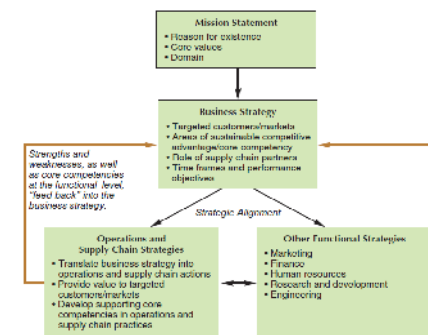



Figure 2.5

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Operations and Supply Chain Strategies Case Study

Catherine's Confectionaries

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