Production & Operations Management
INFO 335

Operations Strategy

(Chapter 2)

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Three Inputs to a Business Strategy

Business/Functional Strategy

Developing an Operations Strategy

Operations Strategy:

- Is a plan for the design and management of operations functions
- Focuses on specific capabilities which give it a competitive edge – **competitive priorities**

Competitive Priorities – The Edge

Four Key Operations Questions -

Can a company compete on:

1. **Cost?**
2. **Quality?**
3. **Time?**
4. **Flexibility?**

All of the above? Some? Tradeoffs?

1. Competing on Cost

Offer product at lower price than competition

- Typically high volume products
- Often limit product range with little customization
- May invest in automation to reduce unit costs
- Can use lower skill labor

2. Competing on **Quality**

- Two major quality dimensions include
  1. **High performance design**:
     - Superior features, high durability, & excellent customer service
  2. **Product & service consistency**:
     - Meets design specifications
     - Close tolerances
     - Error free delivery

3. Competing on Time

- Time/speed a top competitive priority
- First to deliver often wins the race
- Time-related issues involve:
  - Rapid and/or on-time delivery
  - (shorter time between order placement and delivering product exactly when needed every time)

4. Competing on Flexibility

- Business environments can change rapidly; company's must accommodate change by being flexible
- **(B2C) Product flexibility**:
  - Offer a wide variety of goods/services, customized to meet specific requirements of customer
  - Easily drop or add product to meet customer demand
- **(B2B) Volume flexibility**:
  - Ability to rapidly increase or decrease production to match market demands

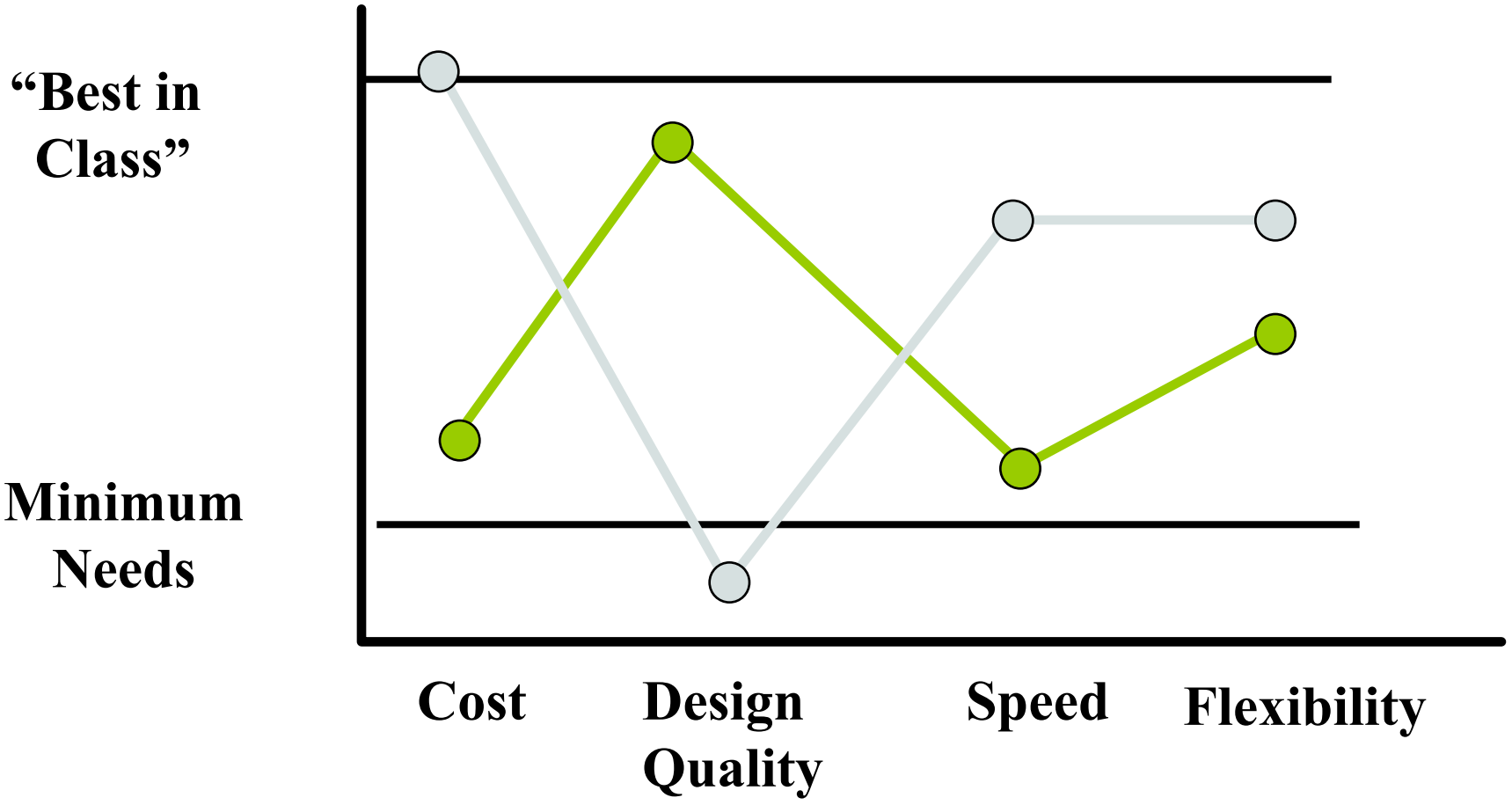
The Need for Trade-offs

- Decisions
  - must emphasize priorities that support business strategy
  - often required trade-offs
  - must focus on **order qualifiers** and **order winners**

Priority Trade-Offs

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

Comparing Two Software Development Firms



Order Winners and Qualifiers

- **Winners:**
  - **Differentiators — performance not yet duplicated by competitors**
  - **Competitive advantage — performance better than all or most of the competitors**
- **Qualifiers**
  - **Minimum acceptable level of performance**

Over time, Differentiators ⇨ ⇨ Winners ⇨ ⇨ Qualifiers as competition intensifies.

Productivity measures how efficiently inputs converted to outputs

- **Total Productivity** Measure
  Total Productivity = Output produced/All inputs used

- **Partial Productivity** Measure
  Partial Productivity = Output/labor or Output/Capital

- **Multifactor Productivity** Measure
  Multi-factor Productivity = Output/(labor + materials+others) or Output/(labor + capital)
  Use all inputs when exact inputs are not identified for multifactor

In-Class Practice Problem

Suppose that a plant has a total productivity measure of 0.85. What can we conclude?

a) the plant is not earning profits

b) nothing

c) the plant should lay off workers

d) the plant is highly automated

e) the daily productivity is excellent

In-Class Practice Problem

Vericol, Inc. manufactures drugs using workers and automated machines. The firm has decided to replace two workers with a new machine, while the output per day is not expected to change. Which of the following cannot be true?

a) labor productivity will increase

b) multifactor productivity will decrease

c) labor productivity will decrease

d) multifactor productivity will increase

In-Class Practice Problem

If inputs increase by 30% and outputs decrease by 15%, what is the percentage change in productivity?

a) 100% decrease

b) 11.54% increase

c) 34.62% decrease

d) 15% increase

e) 15% decrease

In-Class Practice Problem

KB Industries uses two measures of productivity: a) total productive, b) labor productivity. Given data for the last three years (in $M), calculate the productivity ratios. What do they mean?

	2015	2016	2017
Sales	100	200	500
Materials	50	100	250
Labor	50	50	50
Overhead	50	50	100

Can we say anything generally about how labor productivity compares to total productivity?

Interpreting Productivity Measures

- Productivity measures must be compared to something, i.e., another year, a different company
- Raw productivity calculations do not tell the complete story unless there are no major structure differences.
- What changes could improve car sales per employee? Automation? Outsourcing? Major re-design?