Competitiveness, Strategy, and Productivity

Homework problems: #2, 3, 5, 6 on page 65.

Better quality, higher productivity, lower costs, and the ability to respond quickly to customer needs are more important than ever and... the bar is getting higher.

A Cold Hard Fact

Businesses Compete Using Marketing
- Identifying consumer wants and needs, providing inputs to design and operations
- Pricing?
- Advertising and promotion?

Why Some Organizations Fail
- Neglecting operations strategy
- Failing to take advantage of strengths and opportunities
- Failing to recognize competitive threats
- Too much emphasis in product and service design and not enough on improvement
- Neglecting investments in capital and human resources
- Failing to establish good internal communications and cooperation
- Failing to consider customer wants and needs

Competitiveness
- Competitiveness:
  - How effectively an organization meets the wants and needs of customers relative to others that offer similar goods or services.
  - Organizations compete through some combination of their marketing and operations functions.
  - What do customers want? (MKT)
  - How can these customer needs be satisfied? (OSM)

Businesses Compete Using Operations
1. Product and service design (differentiation)
2. Cost
3. Location
4. Quality
5. Quick response
6. Flexibility
7. Inventory management
8. Supply chain management
9. Service
10. Managers and workers
Hierarchical Planning

Mission: reason for existence; purpose of the organization
Goals: provide detail and scope of mission
Organizational/corporate Strategies: plans for achieving goals
Functional Strategies
Tactics: methods and actions taken to accomplish strategies

Mission

- Mission
  - The reason for an organization’s existence
- Mission statement
  - States the purpose of the organization
  - The mission statement should answer the question of “What business are we in?”

Goals

- The mission statement serves as the basis for organizational goals
- Goals
  - Provide detail and the scope of the mission
  - Goals can be viewed as organizational destinations
  - Goals serve as the basis for organizational strategies

Strategies

- Strategy
  - A plan for achieving organizational goals
  - Serves as a roadmap for reaching the organizational destinations
  - Organizations have
    - Organizational/corporate strategies
    - Overall strategies that relate to the entire organization
    - Support the achievement of organizational goals and mission
    - Functional level strategies
      - Strategies that relate to each of the functional areas and that support achievement of the organizational strategy

Tactics and Operations

- Tactics
  - The methods and actions taken to accomplish strategies
  - The “how to” part of the process
- Operations
  - The actual “doing” part of the process

The Case of Apple

Mission

- to provide the very best product in the world to consumers
Goals

Organizational strategy

Operations strategy

Tactics
Planning and Decision Making

Mission
Goals
Organizational Strategies
Functional Goals
Finance Strategies
Marketing Strategies
Operations Strategies
Tactics Operating procedures
Tactics Operating procedures
Tactics Operating procedures

Figure 2.1

Example 1

Rita is a high school student. She would like to have a career in business, have a good job, and earn enough income to live comfortably.

Mission: Live a good life
- Goal: Successful career, good income
- Strategy: Obtain a college education
- Tactics: Select a college and a major
- Operations: Register, buy books, take courses, study, graduate, get job

Strategy Examples

- Low cost
- Scale-based strategies
  - Economy of Scale
- Specialization
- Flexible operations
- High quality
- Service

Costco vs. Sam’s Club

Mission: delivering low prices to customers

Sam’s Club:

Costco:

Tactics

<table>
<thead>
<tr>
<th>Average wage</th>
<th>$27,040/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>47% covered;</td>
</tr>
<tr>
<td>Health-care insurance</td>
<td>$3,500/worker</td>
</tr>
<tr>
<td>Retirement plan</td>
<td>64% of workers</td>
</tr>
<tr>
<td>(company pays</td>
<td>$747 per worker)</td>
</tr>
</tbody>
</table>

Q. What has Costco been doing to make high wage strategy economically viable?

Strategy Formulation

- Effective strategy formulation requires taking into account:
  - Core competencies
  - Environmental scanning
  - SWOT
- Successful strategy formulation also requires taking into account:
  - Order qualifiers: minimum standards
  - Order winners: unique characteristics of goods or services
### Strategy Formulation

- **Competitive Priority (Core Competency)**
  - The special attributes or abilities that give an organization a competitive edge.

- **Distinctive/Core Competencies (Competitive Priority)**
  - Price/cost
  - Quality
  - Time
  - Flexibility
  - Service
  - Location

- **Competent work force**
- **Technology & knowledge**
- **Ability to create or shift demand**
- **Differentiation (variety, newness, etc.)**

**Sustainable?**

### Competitive Priority (Core Competency)

<table>
<thead>
<tr>
<th>Organizational Priority</th>
<th>Operations Priority</th>
<th>Examples of Companies or Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Price</td>
<td>Low Cost</td>
<td>U.S. first-class postage, Wal-Mart</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Short processing times</td>
<td>McDonald’s restaurants, FedEx</td>
</tr>
<tr>
<td>High Quality</td>
<td>High performance design and/or high quality processing: Consistent Quality</td>
<td>Sony TV, Lexus, Coca-Cola, Toyota</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Innovation</td>
<td>3M, Apple</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Product flexibility</td>
<td>Burger King (&quot;Have it your way&quot;), McDonald’s (&quot;Buses Welcome&quot;)</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Superior customer service</td>
<td>Disneyland, Amazon.com, Zappos, IBM</td>
</tr>
</tbody>
</table>

### Environmental Scanning

- Environmental Scanning is necessary to identify
  - **Internal Factors**
    - Strengths and Weaknesses
  - **External Factors**
    - Opportunities and Threats

### Key Internal Factors

- Human Resources
- Facilities and equipment
- Financial resources
- Customers
- Products and services
- Technology
- Suppliers

### Key External Factors

- Economic conditions
- Political conditions
- Legal environment
- Technology
- Competition
- Markets
Nokia was the world's largest maker of mobile phones from 1998 to 2012—it was selling a million phones a day. Its smart phone market share plummeted from 50%, before iPhone was introduced in 2007, to 5% in 2012. Android’s smart phone share flew from 4% to 23% in 2010, and to 80% in 2013. Management’s initial reaction to iPhone?

Examples: Environmental Scanning

Strategy Formulation

- Order qualifiers
  - Characteristics that customers perceive as minimum standards of acceptability to be considered as a potential purchase

- Order winners
  - Characteristics of an organization’s goods or services that cause it to be perceived as better than the competition

2.4 Operations Strategy

- Operations strategy
  - The approach, consistent with organization strategy, that is used to guide the operations function.

Quality and Time Strategies

- Quality-based strategy
  - Strategy that focuses on quality in all phases of an organization
  - Pursuit of such a strategy is rooted in a number of factors:

- Time-based strategies
  - Strategies that focus on the reduction of time needed to accomplish tasks
  - It is believed that by reducing time, costs are lower, quality is higher, productivity is higher, time-to-market is faster, and customer service is improved.

Areas where organizations have achieved time reductions:

- Planning time
- Product/service design time
- Processing time
- Changeover time
- Delivery time
- Response time for complaints
**Time-based Competition**

1. Higher Quality
   - You cannot speed up the production cycle overall unless everything is done right the first time.

2. More Innovative Products
   - Rapid new-product development cycles keep the company in close touch with customers and their needs.

3. Lower Cost
   - Costs drop because production materials and information collect less overhead and do not accumulate as work-in-process inventory.

4. Better Customer Service
   - Customer service improves because the lead time from receipt of order to shipment diminishes.

**Time-based Competition Examples**

1. **Atlas Door**
   - Reduced response time by reducing production lead time. Also streamlined order-entry, engineering, pricing, and scheduling.
   - Can charge higher prices and enjoy bigger profit.

2. **Honda**
   - Introduced more new products in less time, by changing methods of developing, manufacturing, and introducing new products.
   - Defeated Yamaha’s attempt to take larger market share.

3. **Motorola**
   - Beat its competitors by 2 years in introducing cellular phone and enjoyed a handsome payoff of $1 billion.

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**A Tale of Two Product Development: GM vs. Ford**

Preface: Knowing that Ford was developing a new intermediate size model for introduction in 1985, GM appointed Robert Dorn in 1981 as the coordinator to start its GM-10 project to replace its a-cars (i.e., Celebrity, Pontiac 6000, Century, Ciera).

**Turnout:**

1. Buick Regal (2-door) in 1988
2. Olds Cutlass Supreme in 1989
3. Pontiac Grand Prix in 1990 (9 years after)

**Meanwhile:**

1. Ford has launched its Taurus & Sable as expected in 1985.
2. Honda has gone through two generations of its Accord model.

**Consequences:** GM had to scale back annual production from an expected 1.6 million-unit to a realistic 1-million-unit and close 3 assembly plants permanently.

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**Time-to-Market**

Time-to-market is becoming one of the most critical factors for success across all markets in the 21st century.

If a company is late to market by: 1 mo. 2 mo. 3 mo. 4 mo. 5 mo. 6 mo.

The gross profit potential is reduced by: 3%

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**iPad**

During the depths of the financial crisis, PC makers undercut rivals by focusing on small, inexpensive laptops known as Netbooks (strategy).

In the mean time, Apple continued to focus on the development of its iPad. (strategy)

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**Productivity**

- **Productivity**
  - A measure of the effective use of resources, usually expressed as the ratio of output to input.

- **Productivity measures are useful for**
  - Planning workforce requirements
  - Scheduling equipment
  - Tracking an operating unit’s performance over time
  - Judging the performance of an entire industry or country
Why Productivity Matters

- High productivity is linked to higher standards of living
- As an economy replaces manufacturing jobs with lower productivity service jobs, it is more difficult to maintain high standards of living
- Higher productivity relative to the competition leads to competitive advantage in the marketplace
- Pricing and profit effects
- For an industry, high relative productivity makes it less likely it will be supplanted by foreign industry

Productivity

- Partial measures
  - output/(single input)
- Multi-factor measures
  - output/(multiple inputs)
- Total measure
  - output/(total inputs)

Productivity = Outputs / Inputs

Measures of Productivity

<table>
<thead>
<tr>
<th>Partial measures</th>
<th>Output</th>
<th>Output</th>
<th>Output</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>Labor</td>
<td>Machine</td>
<td>Capital</td>
<td>Energy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multifactor measures</th>
<th>Output</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor + Machine</td>
<td>Labor</td>
<td>Labor</td>
</tr>
<tr>
<td>+ Capital + Energy</td>
<td>Capital</td>
<td>Energy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total measure</th>
<th>Goods or Services Produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>All inputs used to produce them</td>
<td></td>
</tr>
</tbody>
</table>

Productivity Example

Units produced: 5,500
Standard price: $35/unit
Labor input: 500 hours
Cost of labor: $25/hour
Cost of materials: $5,000
Cost of overhead: 2x labor cost

What is labor productivity and multifactor productivity?

Labor productivity =

or =

Multifactor productivity =

What are the inputs?
Productivity Growth

Productivity Growth = \( \frac{\text{Current productivity} - \text{Previous productivity}}{\text{Previous productivity}} \times 100\% \)

Example: Labor productivity on the ABC assembly line was 25 units per hour in 2013. In 2014, labor productivity was 23 units per hour. What was the productivity growth from 2013 to 2014?

Who’s more productive and the consequences?

Sales per employee, $ thousand *

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1999</th>
<th>2015</th>
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<tbody>
<tr>
<td>Wal-Mart</td>
<td>$148K</td>
<td>$181K</td>
<td></td>
</tr>
<tr>
<td>Kmart</td>
<td>109</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Sears</td>
<td>87</td>
<td>118</td>
<td></td>
</tr>
</tbody>
</table>

Factors Affecting Productivity

- Standardization
- Quality
- Use of Internet
- Computer viruses
- Searching for lost or misplaced items
- Scrap rates
- New workers
Other Factors Affecting Productivity

- Safety
- Shortage of IT workers
- Layoffs
- Labor turnover
- Design of the workspace
- Incentive plans that reward productivity

Improving Productivity

- Develop productivity measures
- Determine critical (bottleneck) operations
- Develop methods for productivity improvements
- Establish reasonable goals
- Get management support
- Measure and publicize improvements
- Don’t confuse productivity with efficiency

Bottleneck/critical Operation

Machine #1: 10 units/hr
Machine #2: 10/hr
Final Operation
Machine #3: 10/hr
Machine #4: 10/hr

Q. What is the max system output rate?

What supports Costco’s high-wage strategy

Tactics: