Information Technology

Information Technology
For Management
3rd Edition
Turban – McLean – Wetherbe

3rd Lecture

Strategic Information System
For Competitive Advantage

The Concept

- It is sometimes necessary to completely change business models & strategies to succeed in digital economy.
- Web-based IT enables companies to gain competitive advantage & to survive in the face of serious corporate threat.
- Global competition is not just about price & quality; it is about service as well.
- IT may require a large investment over long period of time

- Extensive networked computing infrastructure is necessary to support a large global system.
- Web-based application can be used to provide superb customer service.
- It is necessary to patent innovative systems to assure competitive advantage. Otherwise competitor will copy the systems, and the advantage will disappear.

Strategic Advantage & IT

- Strategic IS are the systems that support or shape a business unit's competitive strategy.
- It can change business strategies, goals, process, products, or environmental relationships to help organization to gain a competitive advantage in cost, quality, or speed.
- Competitive advantage leads to control of the market and to large-than-average profit.
- A SIS helps an organization through its contribution to strategic goals to increase performance & productivity

5

A Key Element of Strategic Management - Innovation

- The term *strategic* is to the *long-term* nature & to the large magnitude of the advantage over competitor.
- *Strategic management* is the way an organization maps the strategy of its future operation. Include three complementary activity:
  - Long-range planning
  - Response management
  - innovation

6

Areas of IT Related to Technological Innovation

- New business models
- New markets
- New product
- Extend products
- Differential products
- Super systems
- Customer terminals
- Computer-aided sales

The role of IT in Strategic Management

- IT creates innovative applications that provide direct strategic advantage.
- IS have been recognized as a competitive weapon.
- IT supports change such as reengineering, like providing speedy communication, shortens product design time, et al.
- IT link company with its business partners effectively & efficiently.
- IT provides for cost reduction.
- IT provide competitive intelligence by collecting & analyzing information about products, markets, competitors, & environmental change.
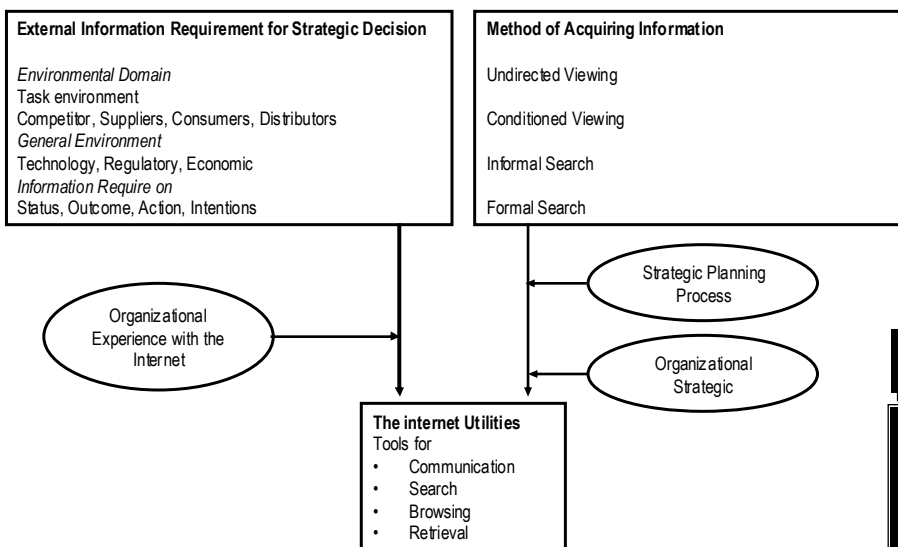
Competitive Intelligence

- ◆ Competitive intelligence are activities to gather information on competitors about their prices, performance, products, and other information to increasing market knowledge, improving internal relationship, & raising the quality of strategic planning.
- ◆ However it's not enough just to gather information on competitor. Analizing & interpreting the information is an important as collecting it.

Internet & Competitive Intelligence

External Information Requirement for Strategic Decision	Method of Acquiring Information
Environmental Domain Task environment Competitor, Suppliers, Consumers, Distributors *General Environment* Technology, Regulatory, Economic *Information Require on* Status, Outcome, Action, Intentions	Undirected Viewing Conditioned Viewing Informal Search Formal Search

Organizational Experience with the Internet

Strategic Planning Process

Organizational Strategic

The internet Utilities
Tools for
- Communication
- Search
- Browsing
- Retrieval

Porter's Competitive Force Model & Role of IT

◆ The five major force that could endanger a company's position:

- The treat of entry of new competitors
- The bargaining power of suppliers
- The bargaining power of buyers
- The treat of substitute products or services
- The rivalry among existing firm in industry
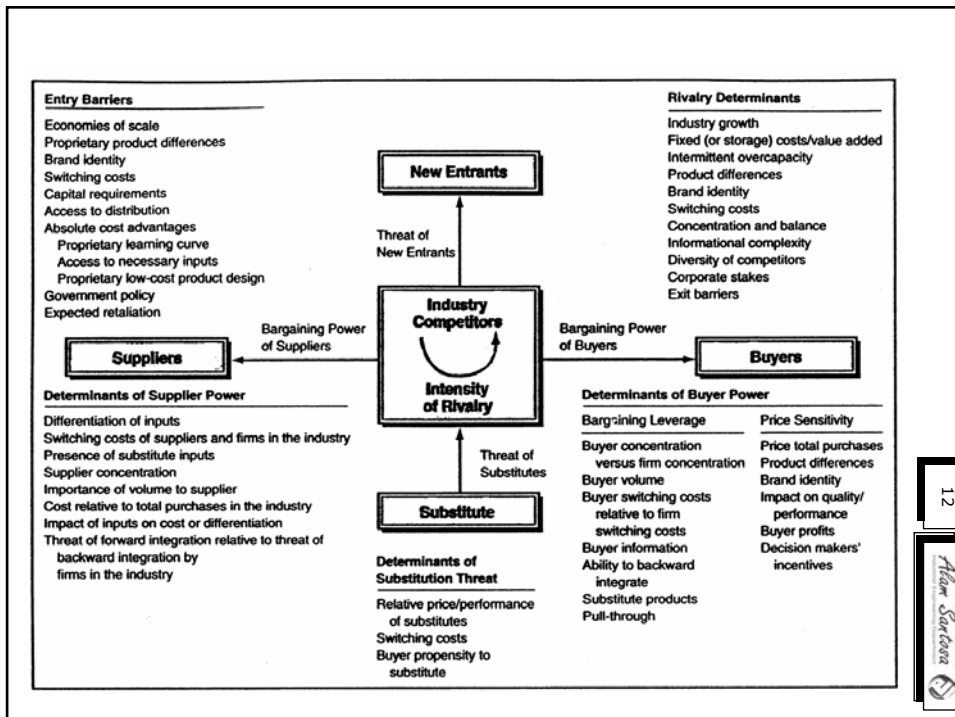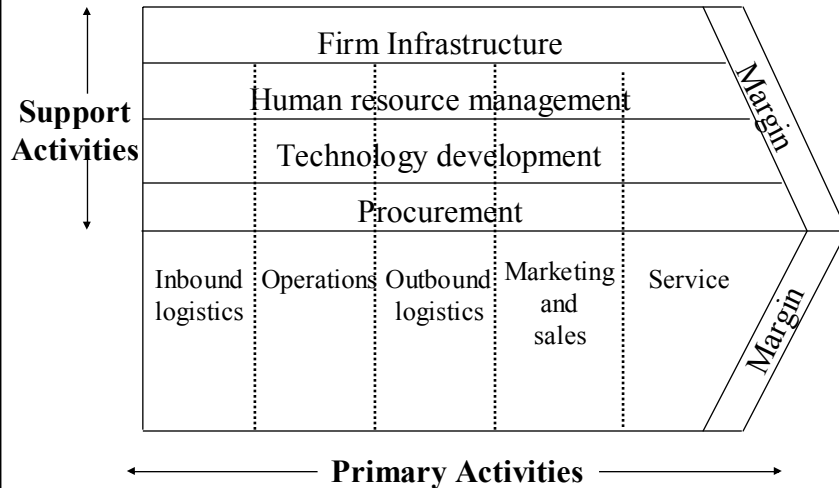
Porter's Response Strategies

- Cost Leadership. Produce product and/or services at the lowest cost in the industry.
- Differentiation. Be unique in industry.
- Focus. Select a narrow-scope segment and achieve either a cost leadership or a differentiation strategy in this segment.
- Growth. Increase market share, acquire more customer, or sell more product.
- Alliances. Work with business partners, creates synergy, concentrate on their core business & provide opportunity for growth.
- Innovation. Develop new product & services, new features, & new way to produce.
- Improve internal efficiency.
- Customer-oriented approach & CRM.

13

Alan Sartosa

TABLE 3.2 Impact of Competitive Forces and Role of IT

Key Force Impacting the Industry	Business Implications	Potential IT Effects
Threat of new entrants	Additional capacity Reduced prices New basis for competition	Provide entry barriers/reduce access by: • exploiting existing economies of scale • differentiating products/services • controlling distribution channels • segmenting markets
Buyer power high	Forces prices down Higher quality demanded Service flexibility required Encourages competition	Differentiate products/services and improve price/performance Increase switching costs of buyers Facilitate buyer product selection
Supplier power high	Raises prices/costs Reduces quality of supply Reduces availability	Implement supplier sourcing systems Extend quality control into suppliers' operations Do forward planning with suppliers
Substitute products threatened	Limits potential market and profit Imposes price ceilings	Improve price/performance Redefine products and services to increase value Redefine market segments
Intense competition from rivals	Increases price competition Spurs product development Makes distribution and service critical Customer loyalty required	Improve price/performance Differentiate products and services in distribution channel and to consumer Get closer to the end consumer—understand the use requirements

Source: J. Ward and P. Griffiths, *Strategic Planning for Information Systems*, 2nd ed. New York: Wiley, 1997, p. 86. Reprinted by permission of John Wiley & Sons, Inc.

14

Alan Sartosa

Porter's Value Chain Analysis Model

Firm Infrastructure					
Human resource management					Margin
Technology development					
Procurement					
Inbound logistics	Operations	Outbound logistics	Marketing and sales	Service	Margin

Support Activities (vertical arrow on left)

Primary Activities (horizontal arrow at bottom)

15

The Use of Value Chain Analysis Model

◆ The value chain model can be used in different ways.
- First, we can use it to do company analysis, by systematically evaluating a company's key process and core competencies.
- Second, Value chain model is to do an industry analysis to search for specific information system to facilitate industrial activities.
- Finally, the value chain model can be used either for an individual company or for an industry by superimposing different types of IS that help special activities.

16

Strategic Information System Frameworks

1. Assess information intensity.
2. Determine the role of IT in the industrial structure.
3. Identify & ranked the way in which IT can create competitive advantage.
4. Investigate how IT might spawn new business.
   - What information generated by the business should be sold?
   - What IT capacities exist to start a new business?
   - Does IT make it feasible to produce new items related to organization's current products?
5. Develop a plan for taking advantage of IT

Implementing & Sustaining SIS

- SIS implementation.   Most SIS is large-scale system whose take months or years.
- SIS risks & failures. The magnitude & complexity of the continuous change in technology & in the business environment may result in partial or even failure of SIS.
- Finding appropriate SIS. Identifying appropriate SIS is not a simple task. One approach is to start with known problems or areas where improvement can provide strategic advantage, decide on strategy, & then build the appropriate IT support.
- Sustaining SIS & strategic advantage. The major problem is to how sustain competitive advantage before competitor imitated their system.
  - Inward system
  - Develop comprehensive, innovative, & expensive system that is very difficult to duplicate

Managerial Issues

- ◆ Implementing strategic information system can be risk.
- ◆ Strategic information systems require planning.
- ◆ Sustaining competitive advantage is challenging.
- ◆ Ethical issues.

19

Alam Santosa