Chapter 2
Strategic Use of Information Resources

Managing and Using Information Systems: A Strategic Approach

by Keri Pearlson & Carol Saunders

Introduction

• How have successful businesses utilized IS strategically?
• What resources are involved in crafting a strategic IS policy? Which one is most important?
• D’Aveni stated that competitive advantage is temporary, do you agree or disagree? Why?
• Many of today’s most successful companies have created strategic alliances. How has this helped them to create strategic advantage?

Real World Examples

• In 1994 Dell finally stopped selling PCs through retail stores.
• It moved completely to using an integrated IT platform that allow the order of customized systems.
• Strategic use of IS produced Cost savings from reduced inventories passed on to customers.
• This innovation created a competitive advantage for Dell, which used its information resources to achieve high volumes without the high costs of the industry’s traditional distribution channels (see www.dell.com)

EVOLUTION OF INFORMATION RESOURCES
Information Resources

• Over the past decades the use of information resources has changed.
• Organizations have moved from an “efficiency model” of the 1960’s to a “value creation model” of the 2000’s.
• Companies seek to utilize those technologies that give them competitive advantage.
• Maximizing the effectiveness of the firm’s business strategy requires the general manager to identify and use information resources.
• Figure 2.1 shows this change.

<table>
<thead>
<tr>
<th>Primary Role of IT</th>
<th>1960s</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
<th>2000+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>Automate existing paper-based processes</td>
<td>Effectiveness</td>
<td>Solve problems and create opportunities</td>
<td>Strategic increase individual and group effectiveness</td>
<td>Strategic Transform industry/organization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Justify IT expenditure</th>
<th>ROI</th>
<th>Increasing productivity and decision making</th>
<th>Competitive position</th>
<th>Competitive position</th>
<th>Adding Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target of systems</td>
<td>Organization</td>
<td>Individual manager/Group</td>
<td>Business processes</td>
<td>Business processes ecosystem</td>
<td>Customer, supplier, ecosystem</td>
</tr>
<tr>
<td>Information model</td>
<td>Application specific</td>
<td>Data-driven</td>
<td>User-driven</td>
<td>Business-driven</td>
<td>Knowledge-driven</td>
</tr>
<tr>
<td>Dominant technology</td>
<td>Mainframe-based</td>
<td>Minicomputer-based</td>
<td>Microcomputer “decentralized intelligence”</td>
<td>Client-Server “distribution intelligence”</td>
<td>Internet “ubiquitous intelligence”</td>
</tr>
<tr>
<td>Basis of Value</td>
<td>Scarcity</td>
<td>Scarcity</td>
<td>Scarcity</td>
<td>Plentitude</td>
<td>Plentitude</td>
</tr>
<tr>
<td>Underlying economics</td>
<td>Economic of information bundled w/ economics of things</td>
<td>Economic of information bundled w/ economics of things</td>
<td>Economic of information bundled w/ economics of things</td>
<td>Economic of information separated f/ economics of things</td>
<td>Economic of information separated f/ economics of things</td>
</tr>
</tbody>
</table>

Figure 2.1 Eras of information usage in organizations

Information Resources

• Information resources is defined as the available data, technology, and processes available to perform business processes and tasks.
• Relationships between general managers and IS managers.
• Resources available include:
  – IS Infrastructure
  – Information and knowledge
  – Proprietary technology
  – Technical skills of IT staff
  – End users of the IS and more.
Advantages or Information Resources

- General managers evaluating an information resource for competitive advantage needs to ask:
  - What makes the information resource valuable?
  - Who appropriates the value created by the information resource?
  - Is the information resource equally distributed across firms?
  - Is the information resource highly mobile?
  - How quickly does the information resource become obsolete?

The Strategic Landscape

- Managers confront elements that influence the competitive environment.
- Slim tolerance for error.
- Managers must take multiple view of the strategic landscape, such as:
  - First view - Porter’s five competitive forces model.
  - Second view - Porter’s value chain.
  - Third view – focuses on the types of IS resources needed (Resource Based View).

How can Information Resources be Used Strategically?

Using Information Resources to Influence Competitive Forces

- Porter’s five forces model show the major forces that shape the competitive environment of the firm.
  1. **Threat of New Entrants**: new firms that may enter a company’s market.
  2. **Bargaining Power of Buyers**: the ability of buyers to use their market power to decrease a firm’s competitive position
  3. **Bargaining Power of Suppliers**: the ability suppliers of the inputs of a product or service to lower a firm’s competitive position
  4. **Threat of Substitutes**: providers of equivalent or superior alternative products
  5. **Industry Competitors**: current competitors for the same product.

- Figure 2.2 and 2.3 show this model in detail.
Figure 2.2 Five competitive forces with potential strategic use of information resources.

Figure 2.3 Application of five competitive forces model.

Porter’s Value Chain Model

- Value chain model addresses the activities that create, deliver, and support a company’s product or service.
- Two broad categories:
  - Primary activities – relate directly to the value created in a product or service.
  - Support activities – make it possible for the primary activities to exist and remain coordinated.

Altering the Value Chain

- The Value Chain model suggest that competition can come from two sources:
  - **Lowering the cost** to perform an activity and
  - **Adding value to a product or service** so buyers will be willing to pay more.
- Lowering costs only achieves competitive advantage if the firm possesses information on the competitor’s costs
- Adding value is a strategic advantage if a firm possesses accurate information regarding its customer such as: which products are valued? Where can improvements be made?
The Value Chain System

- The value chain model can be extended by linking many value chains into a **value system**.
- Much of the advantage of supply chain management comes from understanding how information is used within each value chain of the system.
- This can lead to the formation of entirely new businesses designed to change the information component of value-added activities. (Figure 2.5)
**CRM and the Value Chain**

- Customer Relationship Management (CRM) is a natural extension of applying the value chain model to customers.
- CRM includes management activities performed to obtain, enhance relationships with, and retain customers.
- CRM is a coordinated set of activities.
- CRM can lead to better customer service, which leads to competitive advantage for the business.

**The Resource-Based View**

- The Resource-Based View (RBV) looks at gaining competitive advantage through the use of information resources.
- Two subsets of information resources have been identified:
  - Those that enable firms to attain competitive advantage (rare and valuable resources that are not common place).
  - Those that enable firms to sustain competitive advantage (resources must be difficult to transfer or relatively immobile).

**STRATEGIC ALLIANCES**
The Value System and Strategic Alliances

- Many industries are experiencing the growth of strategic alliances that are directly linked to sharing information resources across existing value systems.
- E.g., Delta recently formed an alliance with e-Travel Inc to promote Delta’s inline reservation system.
- This helps reduce Delta’s agency fees while offering e-Travel new corporate leads.
- Also, Supply Chain Management (SCM) is another type of IT-facilitated strategic alliance.

Types of Strategic Alliances

- Supply Chain Management: improves the way a company finds raw components that it needs to make a product or service.
  - Technology, especially Web-based, allows the supply chain of a company’s customers and suppliers to be linked through a single network that optimizes costs and opportunities for all companies in the supply chain
  - Wal-Mart and Proctor & Gamble.
- Co-opetition: a new strategy whereby companies cooperate and compete at the same time with companies in their value net
  - Covisint and General Motors, Ford, and DaimlerChrysler.

Potential Risks

- There are many potential risks that a firm faces when attempting to use IT to outpace their competition.
- Executives should be aware of these risks before they surface.
- They are:
  - Awakening a sleeping giant – a large competitor with deeper pockets may be nudged into implementing IS with even better features
  - Demonstrating bad timing – sometimes customers are not ready to use the technology designed to gain strategic advantage
  - Implementing IS poorly – information systems that fail because they are poorly implemented
  - Failing to deliver what users want – systems that don’t meet the firm’s target market likely to fail
  - Running afoul of the law – Using IS strategically may promote litigation
**Food for Thought:**

**Time-based Competitive Advantage**

- The 21st Century will see organizations increasingly seeking to use technology to neutralize the competition as quickly as possible.
- Reaching individual customers and meeting their needs as close to instantaneously as possible will leave no room for competitive actions to change the customer's mind.
- Typical planning cycles are thrown out the window because the organization needs to respond quickly to customer, competitor and environmental changes.
- Some firms, like Dell, have embraced this opportunity.

**Summary**

- Using IS for strategic advantage requires more than just knowing the technology.
- Remember that not just the local competition is a factor in success but the 5 competitive forces model reminds us of other issues.
- Value chain analysis show us how IS add value to the primary activity of a business.
- Know the risks associated with using IS to gain strategic advantage.