

Chapter 3

Achieving Competitive Advantage with Information Systems

LEARNING TRACK 1: CHALLENGES OF INFORMATION SYSTEMS FOR COMPETITIVE ADVANTAGE

We have seen that the relationship between information systems and organizational performance is very complex, providing managers with both opportunities and challenges.

Opportunities

Business firms face a continuing stream of IT-enabled opportunities to lower their transaction and agency costs and to harness the power of the new information technologies that appear regularly to develop unique products, services, and processes. Clearly, some firms will excel in learning how to use the technology, and because of this fact there are opportunities for strategic competitive advantages at all three levels—business, firm, and industry.

Management Challenges

Some firms achieve better organizational performance and strategic advantage with systems, often after overcoming significant hurdles.

DIFFICULTIES OF SUSTAINING COMPETITIVE ADVANTAGE

Competitive advantages, regardless of their origin, do not last forever. Competitors will always attempt to copy the information systems a firm uses if they provide competitive advantage. Markets, customer expectations, and technology are also continually changing and providing competitors with new opportunities to achieve their own advantages. Nevertheless, information systems do provide many large and small firms with strategic advantages for significant periods of time. Wal-Mart's efficient customer response and supply chain systems are not easily imitated, although many have tried (and failed). Even if a firm's systems can be copied, the business processes and industry relationships underlying those systems often cannot be replicated. Moreover, firms that achieve a strategic advantage by making early investments in information technology can often apply their experience and knowledge to new investments that confer new strategic advantages later on.

DIFFICULTIES OF MANAGING SYSTEM-RELATED CHANGE

Bringing about change through new information technology and systems is slowed considerably by the natural inertia of organizations. Of course, organizations can and do change, but the process is more complicated and much slower than is typically anticipated.

Solution Guidelines

Strategic information systems often change the organization as well as its products, services, and business processes, driving the organization into new behavioral patterns. Using technology for strategic benefit requires careful planning and management.

PERFORMING A STRATEGIC SYSTEMS ANALYSIS

Managers interested in using information systems for competitive advantage will need to perform a strategic systems analysis. To identify the types of systems that would provide a strategic advantage to their firms, managers should ask the following questions:

1. What is the structure of the industry in which the firm is located?
 - What are some of the competitive forces at work in the industry? Are there new entrants to the industry? What is the relative power of suppliers, customers, and substitute products and services over prices?
 - Is the basis of competition quality, price, or brand?
 - What are the direction and nature of change within the industry? From where are the momentum and change coming?
 - How is the industry currently using information technology? Is the organization behind or ahead of the industry in its application of information systems?
2. What are the business, firm, and industry value chains for this particular firm?
 - How is the company creating value for the customer—through lower prices and transaction costs or higher quality? Are there any places in the value chain where the business could create more value for the customer and additional profit for the company?
 - Does the firm understand and manage its business processes using the best practices available? Is it taking maximum advantage of supply chain management, customer relationship management, and enterprise systems?
 - Does the firm leverage its core competencies?
 - Is the industry supply chain and customer base changing in ways that benefit or harm the firm?
 - Could the firm benefit from strategic partnerships and value webs?
 - Where in the value chain would information systems provide the greatest value to the firm?

MANAGING STRATEGIC TRANSITIONS

Adopting the kinds of strategic systems described in this chapter generally requires changes in business goals, relationships with customers and suppliers, internal operations, and information architecture. These sociotechnical changes, affecting both social and technical elements of the organization, can be considered strategic transitions—a movement between levels of sociotechnical systems.

Such changes often entail blurring of organizational boundaries, both external and internal. Suppliers and customers must become intimately linked and may share each other's responsibilities. For instance, in Baxter International's stockless inventory system, Baxter has assumed responsibility for managing its customers' inventories (Johnston and Vitale, 1988). Managers will need to devise new business processes for coordinating their firms' activities with those of customers, suppliers, and other organizations. The organizational change requirements surrounding new information systems are so important that they merit attention throughout this text.