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An important response activity is to develop a corporate strategy of how to handle the business pressures. Once such strategy is developed (including the supporting role of IT), the company can develop its tactical and operational plans as well as specific strategic IT-supported systems.

Strategic systems provide organizations with strategic advantages that enable them to increase their market share and/or profit, to better negotiate with suppliers, or to prevent competitors from entering their territory. There are a variety of IT-supported strategic systems, as we will show throughout the book. The Internet is transforming companies and their strategies, changing the competitive landscape, and requiring commitment to change. In particular these days, Web-based systems are providing considerable strategic advantage to companies. A prime example of strategic systems is Federal Express’s overnight delivery system, which can track the status of every individual package anywhere in the delivery chain. The Federal Express (FedEx) system is heavily supported by IT. A major challenge with this kind of strategic system is the difficulty of sustaining competitive advantage. Most of FedEx’s competitors duplicated the system. So FedEx moved the system to the Internet. However, the competitors quickly followed, and FedEx is now continuously introducing innovations to keep or expand market share. For example, in an application called “My Account,” FedEx provides you with comprehensive account management, including an online address checker (for shipping destinations) and an online wireless portal (see the FedEx case at the end of Part I after Chapter 2).

Strategic information systems planning (SISP) refers to a process for developing a strategy and plans for aligning information systems (including e-commerce applications) with the business strategies of an organization. Researchers have suggested that more extensive SISP in an uncertain environment produces greater planning success. Managers must decide whether, and if so when, to perform such SISP. For further details, see bizplan.com/sisp.html.

A strategy is important, but the process of developing a strategy is maybe even more important. No matter how large or how small the organization, the strategic planning process forces corporate executives, a company’s general manager, or a small business owner to assess the current position of the firm, where it should be, and how to get from here to there. The process also involves primary stakeholders, including the board of directors, employees, and strategic partners. This involvement ensures that stakeholders buy into the strategy and reinforces stakeholder commitment to the future of the organization.

Strategy development will differ depending on the type of strategy, the implementation method, the size of the firm, and the approach that is taken. Nevertheless, any strategic planning process has four major phases, as shown in Figure T2.1. The major phases of the strategic planning process, and some identifiable activities and outcomes associated with each phase, are discussed briefly in the following text. Note that the process is cyclical and continuous. For a proposed methodology, see Clegg and Tan (2006).

**Strategy Initiation.** In the strategy initiation phase, the organization examines itself and its environment. The principal activities include setting the organization’s mission and goals, examining organizational strengths and weaknesses, assessing environmental factors impacting the business, and conducting a competitor analysis. As emphasized throughout this chapter, this includes an examination of the potential contribution that the Internet and other emerging technologies can make to the business.
Specific outcomes from this phase include the following:

- **Company analysis and value proposition.** The company analysis includes the vision, mission, value proposition, goals, capabilities, constraints, strengths, and weaknesses of the company. Questions typically asked in a company analysis are: What business are we really in? Who are our future customers? Do our mission statement and our goals adequately describe our intended future? What opportunities, and threats, do our business and our industry face? One key outcome from this analysis should be a clear statement of the company’s value proposition—the benefit that a company’s products or services provide to a company and its customers and other stakeholders. Value proposition is actually a statement that summarizes the customer segment, the competitor target, and the core differentiation of one’s product from the offering of competitors. It describes the value added by the company (or the e-commerce projects), and usually is included in the business plan. It is only by knowing what benefits a business is providing to customers that chief-level executives can truly understand “what business they are in” and who their potential competitors are (Clegg and Tan, 2006). For example, Amazon.com recognizes that it is not just in the book-selling business, but that it also is in the information-about-books business. Amazon.com’s strategists know this is where customers find value in shopping at Amazon.com and where a great deal of Amazon.com’s competitive advantage lies. So Amazon.com has introduced new services such as “search inside the book” to deliver on that value proposition to its customers.

- **Core competencies.** A core competency refers to the unique combination of the resources and experiences of a particular firm. It takes time to build these core competencies, and they can be difficult to imitate. For example, Google’s core competency is its expertise in information search technology, and eBay’s core competency is in conducting online auctions. A company is using its core competency to deliver a product or service. Google’s products are adWords and adSense, and Intel produces chips.

- **Forecasts.** Forecasting means identifying business, technological, political, economic, and other relevant trends that are currently affecting the business or that have the potential to do so in the future.

- **Competitor (industry) analysis.** Competitor analysis involves scanning the business environment to collect and interpret relevant information about direct competitors, indirect competitors, and potential competitors. Several methodologies are available to conduct such an analysis, including a SWOT analysis and competitor analysis grid.
Strategy Formulation. Strategy formulation is the development of strategies to exploit opportunities and manage threats in the business environment in light of corporate strengths and weaknesses. In an EC strategy, the end result is likely to be a list of EC applications or projects to be implemented.

Specific activities and outcomes from this phase include the following:

- **Business opportunities.** If the strategy initiation has been done well, a number of scenarios for future development of the business will be obvious. How well these scenarios fit with the future direction of the company is assessed. Similarly, the first phase may also have identified some current activities that are no longer relevant to the company’s future and are candidates for divestiture, outsourcing, or elimination.

- **Cost-benefit analysis.** Each proposed opportunity must be assessed in terms of the potential costs and benefits to the company in light of its mission and goals. These costs and benefits may be financial or nonfinancial, tangible or intangible, or short-term or long-term. More information about conducting a cost-benefit analysis is included in Chapter 13 and Online Chapter 17.

- **Risk analysis, assessment, and management.** The risks of each proposed EC initiative (project) must be analyzed and assessed. If a significant risk is evident, then a risk management plan is required. Of particular importance in an EC strategy are business risk factors such as transition risk and partner risk.

- **Business plan.** Many of the outcomes from these first two phases—goals, competitor analysis, strategic opportunities, risk analysis, and more—come together in a business plan. Every business—large or small, new or old, successful or not—needs a business plan to acquire funding and to ensure that a realistic approach is being taken to implement the business strategy. A business plan is likely to include these activities: introduction, technology audit, checking out the competition, setting goals, identifying the audience, building a team, creating a budget, and locating resources. In IT and e-commerce planning, one adds a Web site planning checklist, a Web site promotion checklist, and identifying related resources. For details, see en.wikipedia.org/wiki/Value_proposition.

Strategy Implementation. In this phase, the emphasis shifts from “what do we do?” to “how do we do it?” In the strategy implementation phase, detailed, short-term plans are developed for carrying out the projects agreed on in strategy formulation. Specifically, decision makers evaluate options, establish specific milestones, allocate resources, and manage the projects.

Specific activities and outcomes from this phase include the following:

- **Project planning.** Inevitably, strategy implementation is executed through an EC project or a series of projects. Project planning includes setting specific project objectives, creating a project schedule with milestones, and setting measurable performance targets. Normally, a project plan would be set for each project and application.

- **Resource allocation.** Organizational resources are those owned, available to, or controlled by a company. They can be human, financial, technological, managerial, or knowledge based. This phase includes business process outsourcing (BPO) consideration and use.

- **Project management.** This is the process of making the selected applications and projects a reality—hiring staff; purchasing equipment; licensing, purchasing, or writing software; contracting vendors; and so on.

Strategy Assessment. Just as soon as implementation is complete, assessment begins. Strategy assessment is the continuous evaluation of progress toward the organization’s strategic goals, resulting in corrective action and, if necessary, strategy reformulation. In strategy assessment, specific measures called *metrics* assess the
progress of the strategy. In some cases, data gathered in the first phase can be used
as baseline data to assess the strategy’s effectiveness. If not, this information will have
to be gathered. For large projects, business performance management tools can be
employed (see hyperion.com).

What happens with the results from strategy assessment? As shown in Figure
T2.1 (pg. 162), the strategic planning process starts over again, immediately. Note that
a cyclical approach is required.

**T2.2 Strategic Planning Tools**

Strategists have devised a number of strategic planning tools and techniques that can
be used in strategic planning. This section briefly describes a few of the most popu-
lar tools (see Table T2.1). A strategic management textbook or handbook can pro-
vide more information about these and other strategic planning tools.

The following are useful tools:

**SWOT Analysis.** SWOT analysis is a methodology that surveys the opportunities
(O) and threats (T) in the external environment and relates them to the organiza-
tion’s internal strengths (S) and weaknesses (W).

**Competitor Analysis Grid.** A competitor analysis grid is a strategic planning tool
that highlights points of differentiation between competitors and the target firm. The
grid is a table with the company’s most significant competitors entered in the columns
and the key factors for comparison entered in the rows. Factors might include mis-
sion statements, strategic partners, sources of competitive advantage (e.g., cost lead-
ership, global reach), customer relationship strategies, and financial resources. An

<table>
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<tr>
<th>TABLE T2.1</th>
<th>Strategic Planning Tools</th>
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<tbody>
<tr>
<td><strong>Tools Used in Strategy Initiation</strong></td>
<td><strong>Purpose</strong></td>
</tr>
<tr>
<td>SWOT analysis</td>
<td>Analyze external opportunities and threats and relate them to internal strengths and weaknesses (discussed in text).</td>
</tr>
<tr>
<td>Competitor analysis grid</td>
<td>Seek points of differentiation between competitors and the target firm (discussed in text).</td>
</tr>
<tr>
<td>Strategy canvas</td>
<td>Plot a strategic profile based on competition factors.</td>
</tr>
<tr>
<td>PEST analysis</td>
<td>Assess political, environmental, sociocultural, and technological (PEST) factors for their impact on the organization.</td>
</tr>
<tr>
<td><strong>Tools Used in Strategy Formulation</strong></td>
<td></td>
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<tr>
<td>Scenario planning</td>
<td>Generate, and prepare for, several plausible alternative futures (discussed in text).</td>
</tr>
<tr>
<td>Return on investment (ROI)</td>
<td>Measure costs and benefits quantitatively and financially (discussed in text).</td>
</tr>
<tr>
<td>BCG growth-share matrix</td>
<td>Compare projects on potential market growth and market share to determine the best projects to adopt, sell, redesign, or abandon.</td>
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<tr>
<td><strong>Tools Used in Strategy Implementation</strong></td>
<td></td>
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<tr>
<td>Project management</td>
<td>Accomplish a specific planned effort of defined scope, resources, and duration. (See LeBrosse, 2006)</td>
</tr>
<tr>
<td>Business process reengineering (BPR)</td>
<td>Redesign an enterprise’s processes to accommodate a new application.</td>
</tr>
<tr>
<td><strong>Tools Used in Strategy Assessment</strong></td>
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<tr>
<td>Balanced scorecard</td>
<td>Using this tool, measure organizational performance in finance, customer assessment, business processes, and other areas (discussed in text).</td>
</tr>
<tr>
<td>Web analytics</td>
<td>Track Web site visitor behavior to discover interactions between a site’s content and design and visitors’ activities.</td>
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additional column includes the company’s data on each factor so that significant similarities and differences (i.e., points of differentiation) will be obvious.

Scenario Planning. Scenario planning offers an alternative to traditional planning approaches that rely on straight-line projections of current trends. These approaches fail when low-probability events occur that radically alter current trends. The aim of scenario analysis is to generate several plausible alternative futures, giving decision makers the opportunity to identify actions that can be taken today to ensure success under varying future conditions (see en.wikipedia.org/wiki/Scenario_planning).

The basic method in scenario planning is that a group of analysts generates simulation games for policy makers. The games combine projected factors about the future, such as demographics, geography, and military, political, and industrial information, with plausible alternative social, technical, economic, and political (STEP) trends, which are key driving forces.

Scenario planning can include anticipatory thinking (futures) elements that are difficult to formalize, such as subjective interpretations of facts, shifts in values, new regulations, or inventions.

Balanced Scorecard. Balanced scorecard (BSC) is a tool that assesses organizational progress toward strategic goals by measuring performance in a number of different areas. Originally proposed by Kaplan and Norton (1996) as an alternative to narrowly focused financial assessments, the balanced scorecard seeks more balance by measuring organizational performance in four areas: finance, customers’ assessments, internal business processes, and learning and growth. For more information about the balanced scorecard, see Niven (2005) and en.wikipedia.org/wiki/Balanced_scorecard. For additional tools and methodology, see Clegg and Tan (2006).

Porter’s Competitive Forces Model. This model was presented in Chapter 1, Section 1.4. Details are discussed in the following section.

T2.3 Porter’s Competitive Forces Model

One way to analyze the strategic potential of information systems is to consider their influence on one or more of the five forces presented in Porter’s competitive forces model. Take, for example, the strategic impact of Internet initiatives. Porter (2001) and Harmon et al. (2001) suggest some ways the Internet influences competition in the five factors:

1. The threat of new entrants. For most firms, the Internet increases the threat of new competitors. First, the Internet sharply reduces traditional barriers to entry, such as the need for a sales force or a physical storefront to sell goods and services. All a competitor needs to do is set up a Web site. This threat is especially acute in industries that perform an intermediation role as well as industries in which the primary product or service is digital. Second, the geographical reach of the Internet enables distant competitors to bring competition into the local market, or even an indirect competitor to compete more directly with an existing firm.

2. The bargaining power of suppliers. The Internet’s impact on suppliers is mixed. On the one hand, buyers can find alternative suppliers and compare prices more easily, reducing the supplier’s bargaining power. On the other hand, as companies use the Internet to integrate their supply chain and join digital exchanges, participating suppliers will prosper by locking in customers and increasing switching costs.

3. The bargaining power of customers (buyers). The Web greatly increases a buyer’s access to information about products and suppliers. Internet technologies can reduce customer switching costs, and buyers can more easily buy from downstream suppliers. These factors mean that the Internet greatly increases customers’ bargaining power.
4. **The threat of substitute products or services.** Information-based industries are in the greatest danger here. Any industry in which digitalized information can replace material goods (e.g., music, books, software) must view the Internet as a threat.

5. **The rivalry among existing firms in the industry.** The visibility of Internet applications on the Web makes proprietary systems more difficult to keep secret, reducing differences among competitors. In most industries, the tendency for the Internet to lower variable costs relative to fixed costs encourages price discounting at the same time that competition migrates to price. Both are forces that encourage destructive price competition in an industry.

Porter concludes that the overall impact of the Internet is to increase competition, which negatively impacts profitability. According to Porter, “The great paradox of the Internet is that its very benefits—making information widely available; reducing the difficulty of purchasing, marketing, and distribution; allowing buyers and sellers to find and transact business with one another more easily—also make it more difficult for companies to capture those benefits as profits” (Porter, 2001, p. 66).

In many other ways, Web-based systems are changing the nature of competition and even industry structure. Consider the following:

- Bookseller Barnes & Noble, hardware giant The Home Depot, and other companies have created independent online divisions, which are competing against the parent companies. Such companies are termed “click-and-mortar” companies, because they combine both “brick-and-mortar” and e-commerce operations.
- Any company that sells direct to consumers is also a distributor (wholesaler or retailer), competing against its own traditional distributors.
- The variable cost of a digital product is close to zero. Therefore, if large quantities are sold, the product’s price can approach zero.

Competitors are getting together and becoming more willing to share information. Examples are the vertical exchanges owned by industry leaders.

Porter’s model identifies the forces that influence competitive advantage in the marketplace. It can provide insight into the potential impact of information systems on an industry. Aside from analyzing the impacts of systems on the industry, of significant importance to managers is the development of a strategy aimed at establishing a profitable and sustainable position against these five forces. To establish such a position, a company needs to develop a strategy of performing activities differently from a competitor.

Porter (1980) proposed cost leadership, differentiation, and niche strategies. Others added more strategies (see Chapter 1, Table 1.4). Seven of these strategies for competitive advantage are discussed here.

1. **Cost leadership strategy:** Generate products and/or services at the lowest cost in the industry. A firm achieves cost leadership in its industry by thrifty buying practices, efficient business processes, forcing up the prices paid by competitors, and helping customers or suppliers reduce their costs. A cost leadership example is the Wal-Mart automatic inventory replenishment system. This system enables Wal-Mart to reduce storage requirements so that Wal-Mart stores have one of the highest ratios of sales floor space in the industry. Essentially Wal-Mart is using floor space to sell products, not store them, and it does not have to tie up capital in inventory. Savings from this system and others allow Wal-Mart to provide low-priced products to its customers and still earn high profits.

2. **Differentiation strategy:** Offer different products, services, or product features. By offering different, “better” products, companies can charge higher prices, sell more products, or both. Southwest Airlines has differentiated itself as a low-cost, short-haul, express airline, and that has proven to be a winning strategy for competing in the
highly competitive airline industry. Dell has differentiated itself in the personal computer market through its mass-customization strategy.

3. **Niche strategy**: Select a narrow-scope segment (niche market) and be the best in quality, speed, or cost in that market. For example, several computer-chip manufacturers make customized chips for specific industries or companies. Some of the best-selling products on the Internet are niche products. For example, dogtoys.com and cattoys.com offer a large variety of pet toys that no other pet toy retailer offers.

4. **Growth strategy**: Increase market share, acquire more customers, or sell more products. Such a strategy strengthens a company and increases profitability in the long run. Web-based selling can facilitate growth by creating new marketing channels, such as electronic auctions. An example is Dell Computer (dell/auction.com), which auctions both new and used computers mainly to individuals and small businesses.

5. **Alliance strategy**: Work with business partners in partnerships, alliances, joint ventures, or virtual companies. This strategy creates synergy, allows companies to concentrate on their core business, and provides opportunities for growth. Alliances are particularly popular in electronic commerce ventures. For example, in August 2000 Amazon.com and Toysrus.com launched a co-branded Web site to sell toys, capitalizing on each others’ strengths. In spring 2001 they created a similar baby-products venture. Of special interest are alliances with suppliers, some of whom monitor inventory levels electronically and replenish inventory when it falls below a certain level (e.g., Wal-Mart, Master Builders). Alliances can also be formed among competitors in a strategy known as “co-opetition” (cooperation + competition). For example, airlines in global alliances such as OneWorld and the Star Alliance compete for ticket sales on some routes, but once the ticket is sold they may cooperate by flying passengers on competitors’ planes to avoid half-full planes.

6. **Innovation strategy**: Introduce new products and services, put new features in existing products and services, or develop new ways to produce them. Innovation is similar to differentiation except that the impact is much more dramatic. Differentiation “tweaks” existing products and services to offer the customer something special and different. Innovation implies something so new and different that it changes the nature of the industry. A classic example is the introduction of automated teller machines (ATMs) by Citibank. The convenience of this innovation gave Citibank a huge advantage over its competitors. As in the case of many innovative products, the ATM changed the nature of competition in the banking industry so that now an ATM network is a competitive necessity for any bank.

When one company introduces a successful innovation, other companies in the industry need to respond to the threat by attempting to duplicate or better that innovation. Especially in electronic commerce, the visibility of technologies on the Web makes keeping innovations secret more difficult.

7. **Entry-barriers strategy**: Create barriers to entry. By introducing innovative products or using IT to provide exceptional service, companies can create barriers to entry from new entrants. Cisco’s Dynamic Configuration Tool (tools.cisco.com/qtc/config/html/configureHomGuest.htm) allows prospective buyers to complete an online configuration of a Cisco product and receive intelligent feedback about compatibility and ordering. Service levels such as this make it difficult for new entrants to compete against Cisco. Firms may also create entry barriers by increasing the switching costs of customers or suppliers. A classic example is frequent-flyer and similar buyer-loyalty programs in the airline, hospitality, and retail industries. Companies that have such programs have more customers who are “locked in” by the incentives the loyalty programs offer. A business-to-business example in the car industry is e-procurement system Covisint, which locks in car manufacturers as customers and parts manufacturers as suppliers. By locking in customers, the firm is raising the barriers to entry.
Strategy is more than deciding what a company should do next. Strategy also is about making tough decisions about what not to do. Strategic positioning is about making decisions about trade-offs, recognizing that a company must abandon or not pursue some products, services, and activities in order to excel at others. How are these trade-offs determined? Not merely with a focus on growth and increases in revenue but also on profitability and increases in shareholder value over the long run. How is this profitability and economic value determined? By establishing a unique value proposition and the configuration of a tailored value chain that enables a company to offer unique value to its customers. Therefore, strategy has been, and remains, focused on questions about organizational fit, trade-offs, profitability, and value (Porter, 2001).

Any contemporary strategy-setting process must include the Internet. Strategy guru Porter (2001) argues that a coherent organizational strategy that includes the Internet is more important than ever before.

To illustrate this point, Porter (2001) has identified several ways that the Internet impacts each of the five forces of competitiveness. The majority of impacts are negative, reflecting Porter’s view that “The great paradox of the Internet is that its very benefits—making information widely available; reducing the difficulty of purchasing, marketing, and distribution; allowing buyers and sellers to find and transact business with one another more easily—also make it more difficult for companies to capture those benefits as profits.”

The Internet on strategic competitiveness and long-term profitability will differ from industry to industry. Accordingly, many businesses are taking a focused look at the impact of the Internet and EC on their future. For these firms, an e-commerce strategy, or e-strategy, is the formulation and execution of a vision of how a new or existing company intends to do business electronically.

A different way to analyze competition and the role of IT is provided in Porter’s value chain model, which is the subject we turn to next.

Porter’s Value Chain Model

The value chain can be diagrammed for both products and services and for any organization, private or public. The initial purpose of the value chain model was to analyze the internal operations of a corporation in order to increase its efficiency, effectiveness, and competitiveness. The model has also been used as a basis for explaining the support that IT can provide. In addition, it is also the basis for the supply chain management concept, which was presented in Online Tutorial #1.

The value chain model is useful in conducting a company analysis, by systematically evaluating a company’s key processes and core competencies. To do so, we first determine strengths and weaknesses of performing the activities and the values added by each activity. The activities that add more value are those that might provide strategic advantage. Then we investigate whether by adding IT the company can get even greater added value and where in the chain its use is most appropriate. For example, Caterpillar uses EDI to add value to its inbound and outbound activities; it uses its intranet to boost customer service. In Chapters 2 and 6 through 12 we included many examples of how IT supports the activities of the value chain for individual firms.

Porter’s value chain provides a nice tool with which one can consider the potential impact of IT on an organization’s activities. However, it is important to realize that the firm must have the appropriate resources to deploy in order to create value-added applications.

We have presented several models to help you understand the relationship of information systems to strategic advantage. These models can be useful in providing tools for analyzing the current impact that systems are having on a firm and industry. They also may be useful in highlighting potential high-impact areas where systems are not currently used. To achieve strategic advantage through IT, a firm must carefully plan its IT investments.
Glossary

Balanced scorecard (BSC) Method that evaluates the overall health of organizations and projects by looking at metrics in finance, customers’ view of the organization, internal business processes, and ability to change and expand.

Competitor analysis grid A strategic planning tool that highlights points of differentiation between competitors and the target firm.

E-commerce strategy (e-strategy) The formulation and execution of a vision of how a new or existing company intends to do business electronically.

Scenario planning A planning methodology for dealing with an uncertain environment by examining different scenarios; a what-if analysis.

Strategic information systems planning (SISP) A process for developing a strategy and plans for aligning information systems (including e-commerce applications) with the business strategies of an organization.

Strategy assessment The continuous evaluation of progress toward the organization’s strategic goals, resulting in corrective action and, if necessary, strategy reformulation.

Strategy formulation The development of strategies to exploit opportunities and manage threats in the business environment in light of corporate strengths and weaknesses.

Strategy implementation The development of detailed, short-term plans for carrying out the projects agreed on in strategy formulation.

Strategy initiation The initial phase of strategic planning in which the organization examines itself and its environment.

SWOT analysis A methodology that surveys external opportunities and threats and relates them to internal strengths and weaknesses.

Value chain model Model developed by Michael Porter that shows the primary activities that sequentially add value to the profit margin; also shows the support activities.

Value proposition The benefit that a company’s products or services provide to a company and its customers.

References


