Chapter 12

IT Strategic Planning

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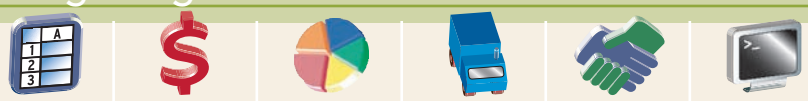
References

Learning Objectives

1. Explain the value of aligning the IT and business strategies and how this alignment can be achieved.
2. Recognize the importance, functions, and challenges of IT governance.
3. Describe the reasons and benefits of aligning IT strategy and business strategy.
4. Describe the IT strategic planning process.
5. Understand major types of outsourcing, reasons for outsourcing, and the risks and benefits.

Integrating *IT*



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International Association of Outsourcing Professionals' best outsourcing service providers, *The Global Outsourcing 100* *outsourcingprofessional.org/content/23/152/1197/*

Visual Ark *virtualark.com/*

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IT Governance Institute *itgi.org/*

Video interview on SaaS and Outsourcing Relationship Management *janeeva.com/blog/*

QUICK LOOK at Chapter 12, IT Strategic Planning

This section introduces you to the business issues, challenges, and IT solutions in Chapter 12. Topics and issues mentioned in the Quick Look are explained in the chapter.

Throughout this book, you read cases about organizations that have invested in real-time operational and reporting apps, networks, mobile computing, social media, enterprise systems and infrastructure, and other IT to solve problems, get work done, gain advantages, and other business purposes. Most likely, each investment was justified and approved through some budget process. Making IT investments on the basis of an immediate need or threat is sometimes necessary, but these reactive approaches won't maximize ROI—and can result in incompatible, redundant, or failed systems.

Two of the biggest risks and concerns of top management are (1) failing to align IT to real business needs and, as a result, (2) failing to deliver value to the business. Since IT can have a dramatic effect on business performance and competitiveness, the failure to manage IT effectively has a serious impact on the business as a whole. Conversely, payoffs from IT successes include substantial reductions in operating costs and improvements in agility. This strategic fit is inherently dynamic because IT strategy alignment is not an event, but an ongoing process that's summarized by the following principle: *ISs are never built—but are always being built.*

In this chapter, we discuss the issues, risks, and payoffs associated with aligning business and IT strategies. The two basic types of IT strategies are *inhouse development,* often with help from a consulting firm and/or vendor, and *outsourcing* to a third-party that resides either in the same country or is offshore. Two other forms of outsourcing are cloud computing and software-as-a-service (SaaS). Outsourcing creates its own set of challenges. For example, companies that have multiple outsourcers face the challenges of managing all of those relationships as their operations grow increasingly complex. And as companies increase outsourcing activities, a gap is created in their organizational structures, management methods, and software tools. At that point, companies need to hire an **outsource relationship management (ORM)** company. ORMs can provide automated tools to monitor and manage outsourcing relationships, leading to more productive service-level agreements (SLAs), better alignment of business objectives, and streamlined communication.

AstraZeneca Outsources R&D, Manufacturing, and IT

British-Swedish company AstraZeneca (*astrazeneca.com/*) is one of the world's leading biopharmaceutical companies, with 2010 annual revenues of $21 billion and 62,700 employees worldwide. The company focuses on the discovery, development, and commercialization of prescription medicines for six healthcare areas. In 2010, AstraZeneca's widely used cholesterol-lowering drug *Crestor* was approved by U.S. regulators to prevent heart attacks and strokes for a broader group of patients, increasing its demand (see Figure 12.1). Crestor was AstraZeneca's third largest-selling drug in 2009, with sales of $4.5 billion, according to data compiled by Bloomberg (*Bloomberg.com/*), and those sales would significantly increase after the U.S. regulators' approval in 2010.

Figure 12.1 AstraZeneca's Crestor medication had sales of $4.5 billion in 2009. (*© Martin Shields/Alamy*)

AstraZeneca explains its forward-looking business strategy as follows:

> *Each year, at the beginning of our business planning cycle, we assess the challenges and opportunities presented by the market, stress test our short and long-term planning assumptions, and critically assess our strengths and weaknesses as an organisation. We do so to assure ourselves that, whatever our past successes, the strategic path we are following is the right one for the future.*

Foreseeing a Threat to Its Business

In 2007, management forecasted that the company was going to lose 38 percent of its revenues over the next five years because patents on its key drug were expiring. Once the patents had expired, competitors could legally produce and sell drugs that AstraZeneca had developed, cutting into its sales and profit. To counter that threat, management launched a radically new business strategy and began major restructuring. David Smith, executive vice president of operations, was responsible for restructuring to cut costs and improve profitability before the patents expired.

Restructuring from Tightly Bound to Loosely Coupled

Smith, who previously worked for cosmetics group Estée Lauder and clothing group Timberland, wanted to follow the restructuring model set years ago in the fashion, electronics, and auto industries. Those industries had shifted away from the traditional tightly bound model of a vertically integrated company. **Vertically integrated companies** control every part of their business from research and development (R&D) to manufacturing and logistics. Smith shifted AstraZeneca from a vertically integrated biopharmaceutical company to a loosely coupled organizational model connected by outsourced arrangements and relationships.

Looking to AstraZeneca's new strategy, Smith explained:

> *We would own the IP [intellectual property], the research, branding and the quality and safety issues . . . but [everything else] would be outsourced. The idea is to take out as many stages as you can.*

Because of its new business strategy, by 2014 AstraZeneca would have completed its shift toward outsourcing R&D, the manufacturing of active pharmaceutical ingredients, and the IT function. Outsourcing relationships would take several years to complete, largely because of complex regulatory hurdles.

R&D and Manufacturing Outsourcing—Radical Changes

The R&D function is the heart of any pharmaceutical company. R&D leads to the discovery of breakthrough drugs that could generate huge profits. So when AstraZeneca cut 7,600 R&D jobs worldwide in 2010, it triggered one of the biggest shake-ups in the industry's history. Jobs were cut because of management's plan to outsource drug manufacturing activities within 10 years. Most of AstraZeneca's R&D work was offshored to pharmamerging markets, such as China. According to Smith:

> *Manufacturing for AstraZeneca is not a core activity. AstraZeneca is about innovation and brand-building . . . . There are lots of people and organizations that can manufacture better than we can . . . . We are going to go through a model of outsourcing the back-end . . . we don't see manufacturing as core.*

Later, the company planned to strip out and outsource more sophisticated manufacturing and supply chain operations as well as logistics activities. These transformations are especially radical because the pharmaceutical industry had been among the most conservative global industries in its attitude toward manufacturing and the supply chain.

IT Outsourcing Arrangements with Multiple Vendors

AstraZeneca depends on its IT capabilities as much as it depends on its R&D—both are crucial. Outsourcing also became a major IT strategy, which was achieved by creating outsourcing relationships with several vendors. Infosys (*infosys.com/*) manages AstraZeneca's manufacturing, supply chain, finance, and human resources applications. Cognizant (*cognizant.com/*) runs the centralized data storage. And IBM (*ibm.com/*) hosts the e-mail and office infrastructure. In 2007, AstraZeneca had signed a seven-year global outsourcing agreement with IBM. Under the deal, IBM provides a single global technical infrastructure for AstraZeneca covering 60 countries. The contract includes server hosting and storage for scientific, network and communications, commercial, and supply chain operations. The former infrastructure was limited to major operations in the United States, United Kingdom, and Sweden. AstraZeneca retains control of its overall IT strategy and development and support of its application systems.

With these outsourcing relationships, AstraZeneca has a single infrastructure linking all functions, regions, and markets. Richard Williams, chief information officer (CIO) of AstraZeneca, said the outsourcing deal enables the company to provide greater value to the business by providing a consistent infrastructure across all its global sites. The consistent infrastructure enables it to roll out new technologies, reporting systems, and apps more quickly and efficiently. Williams added: "In allowing IBM greater autonomy on methods of delivery, the agreement will result in cost efficiencies when compared with running in-house systems."

Sources: Compiled from Boyle (2010), Lomas (2007), and Pagnamenta (2007).

For Class Discussion and Debate

1. *Scenario for Brainstorming and Discussion:* What will AstraZeneca look like in 2014 after its restructuring and outsourcing strategies have been completed? That is, which functions will be performed by the company and which ones won't be? What new types of management skills will be necessary? Do you think that this organizational model is the model of the future?

2. *Debate:* IT offshoring is a very controversial issue because it shifts jobs to other countries. At the same time, it has the potential to decrease the organization's costs significantly. Whether offshoring is good or bad for the people of affected countries is an issue of constant controversy. You might review at least one Web site that discusses the offshoring debate. For example, review Debate over Offshore Outsourcing at *quality-web-solutions.com/offshore-outsourcing-debate.php*.

Take one side of this controversy. One group takes the position of AstraZeneca's top management and debates the benefits of using offshoring as part of its business and IT strategy. Be sure to consider the threats the company is facing and its reasons for outsourcing. The other group takes the position of those opposed to offshoring on economic, ethical, and/or social grounds. Each group needs to argue its position using verifiable facts, not solely emotion.

12.1 IT Strategies

Organizations develop plans and IT strategies that support the business strategy and objectives. The four main points of **IT strategic plans** are to:

- Improve management's understanding of IT opportunities and limitations
- Assess current performance
- Identify capacity and human resource requirements
- Clarify the level of investment required

IT strategic plans should be made within the context of the business strategy that they need to support. Yet this is not always how IT planning is done. As you learn from the AstraZeneca case, manufacturing, R&D, and IT strategies require a forward-looking SWOT (strengths, weaknesses, opportunities, threats) analysis to prepare for the future instead of reacting to crises. And IT implementations that require

new IT infrastructure or the merging of disparate ISs can take years. Long lead times and lack of expertise have prompted companies to explore a variety of IT strategies, which are discussed next.

IT STRATEGIES: IN-HOUSE AND OUTSOURCING

The IT strategy guides investment decisions and decisions on how ISs will be developed, acquired, and/or implemented. IT strategies can be divided into two broad categories:

1. **In-house development** occurs when systems are developed or other IT work is done in-house, possibly with the help of consulting companies or vendors. Typically, ITs that provide competitive advantages or that contain proprietary or confidential data are developed and maintained by the organization's own in-house IT function.
2. **Outsource development,** or **outsourcing,** occurs when systems are developed or IT work is done by a third party. There are many versions of outsourcing. Work or development can be outsourced to consulting companies or vendors that are in the same country, which is referred to as **onshore sourcing.** Or the work can be outsourced offshore to other countries. Outsourcing that is done offshore is also called **offshoring.** Other options are to lease or purchase IT as services. Cloud computing and software-as-a-service (SaaS) have expanded outsourcing options.

Organizations use combinations of these IT strategies—in-house, onshore (domestic) outsourcing, offshoring, cloud computing, and SaaS. You read more about outsourcing in Section 12.5.

IT AND BUSINESS STRATEGY DISCONNECTS

According to a survey of business leaders by Diamond Management & Technology Consultants (*diamondconsultants.com/*), 87 percent believe that IT is critical to their companies' strategic success, but relatively few business leaders work with IT to achieve that success. Other key findings of the Diamond study are the following:

- Only 33 percent of business leaders reported that the IT division is very involved in the process of developing business strategy.
- Only 30 percent reported that the business executive responsible for strategy works closely with the IT division.
- When the IT strategy is not aligned with the business strategies, there is a high risk that the IT project will be abandoned before completion. About 75 percent of companies abandoned at least one IT project and 30 percent abandoned more than 10 percent of IT projects for this reason.

There are several possible reasons why a high percentage of IT projects are abandoned—the business strategy changed, technology changed, the project was not going to be completed on time or on budget, the project sponsors responsible did not work well together, or the IT strategy was changed to cloud or SaaS.

IT AND BUSINESS STRATEGY SUCCESS CASES

Companies that align their business strategy and IT strategy increase their revenues. Here are two cases as examples.

1. At Travelers Companies, Inc., a property and casualty insurance company, a 75 percent increase in new customer sales was realized with the use of a new IS (software) by its independent agents. The success of the software deployment was attributed to the CIO's extensive involvement in strategy development and the close working relationship between the IT division and the responsible business unit.
2. Kraft Foods Inc. launched a master data management (MDM) project to simplify and harmonize its global business processes and enable strategic enterprise information capabilities. Kraft had grown through acquisitions, resulting in ISs that could not share data because of differences in the way data was defined—referred to as the master data. For example, most ISs have lists of data that are shared and used by several of the applications that make up the system. A typical ERP system has a Customer Master, an Item Master, and an Account Master. These master data lists enable apps to share data. Because they are used by multiple apps, any errors or inconsistencies in master data cause errors or failures in apps that use them.

Kraft's assessment of its master data situation revealed problems that were negatively impacting its business strategies. According to IT director Marcelo De Santis: "Our master data management program is a key strategic enabler. It is viewed as foundational—data is critical to the business. We have executive sponsorship from the chief financial officer and executive vice president of operations and business services." The MDM project was undertaken for several business reasons; for example, to reduce the complexity of its product portfolio and thus lead to inventory reductions. BI initiatives are also being facilitated by this project—the ability to obtain an integrated sales view of customer and product; higher reliability when measuring and ranking partners; enhanced evaluations of product performance during launches; easily identified category/geographic business opportunities; robust analytics and reporting; and the ability to respond faster to business changes, such as acquisitions, regulatory changes, and customer requirements.

The fundamental principle to be learned is that when organizational strategies change, the IT strategies need to change with them. Both strategies are dynamic. And when people are resistant to change, they create risk because IS success depends on the skills and cooperation of people as well as the design of business processes and IT capabilities.

BUSINESS AND IT STRATEGIES DEFINED

Business strategy has its own terms that are important to know. Those key terms are defined in Table 12.1 and discussed next.

The **business strategy** sets the overall direction for the business. The **IT strategy** defines *what* information, information systems, and IT architecture are required to support the business and *how* the infrastructure and services are to be delivered.

IT–business alignment refers to the degree to which the IT division understands the priorities of the business and spends its resources, pursues projects, and provides information consistent with these priorities. IT–business alignment includes two facets.

1. One facet is aligning the IT function's strategy, structure, technology, and processes with those of the business units so that IT and business units are working toward the same goals. This facet is referred to as **IT alignment.**

2. Another type of alignment, referred to as **IT strategic alignment,** involves aligning IT strategy with organizational strategy. The goal of IT strategic alignment is to ensure that IS priorities, decisions, and projects are consistent with the needs of the entire business. Failure to properly align IT with the organizational strategy can result in making large investments in systems that have a low payoff or not investing in systems that potentially have a high payoff.

TABLE 12.1 Business Strategy Definitions

Definitions of key terms related to organizational strategy.

1. **Strategy** is how an organization intends to accomplish its vision. It's the overall game plan.
2. **Objectives** are the building blocks of strategy. Objectives set out what the business is trying to achieve. They are action-oriented statements (e.g., achieve an ROI of at least 10 percent in 201X) that define the continuous improvement activities that must be done to be successful. Objectives have the following "SMART" criteria:
   - *Specific:* define what is to be achieved
   - *Measurable:* are stated in measurable terms
   - *Achievable:* are realistic given available resources and conditions
   - *Relevant:* are relevant to the people who are responsible for achieving them
   - *Timeframe:* include a time dimension
3. **Targets** are the desired levels of performance.
4. **Vision statement** is an organization's picture of where it wants to be in the future.
5. **Mission statement** defines why an organization exists.

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Figure 12.2 Activists protest the BP oil spill at a BP Gas Station in the Soho section of New York City by spilling "oil" on themselves. May 28, 2010. (*© Luay Bahoora/Alamy*)

Business and IT strategies depend on shared IT ownership and shared IT governance among all senior managers (Shpilberg et al., 2007). When an IT or any type of failure causes harm to customers, business partners, employees, or the environment, then regulatory agencies—as well as the public—will hold the CEO accountable (see Figure 12.2). A high-profile example is BP CEO Tony Hayward, who was held accountable to Congress for the role of BP in the *Deepwater Horizon* explosion and oil spill; that is, the rig explosion that killed 11 workers and caused the subsea oil gusher that released 60,000+ barrels of crude oil per day into the Gulf of Mexico for approximately three months. Hayward's attempts to claim ignorance of the risks and use the SODDI defense ("some other dude did it") doesn't get him or any CEOs off the hook. *A company can outsource the work but not the responsibility for it.*

Because of the interrelationship between IT and business strategies, IT and other business managers share responsibility in developing IT strategic plans. Therefore, a governance structure needs to be in place that crosses organizational lines and makes senior management responsible for the success of key IT initiatives, which is discussed in the next section.

Review Questions

1. What are the four main points of IT strategic plans?
2. Explain the difference between in-house and outsourcing IT strategies.
3. What are the main types of outsourcing?
4. What are possible reasons why a high percentage of IT projects are abandoned?
5. Define *business strategy* and *IT strategy*.
6. What is the goal of IT–business alignment?

12.2 Corporate and IT Governance

IT governance is concerned with ensuring that organizational investments in IT deliver full value. As such, **IT performance management**—being able to predict and anticipate failures before it's too late—is a big part of IT governance. IT performance management functions include the following: verifying that strategic IT objectives are being achieved; reviewing IT performance; and assessing the contribution of IT to the business. For example, IT performance management assesses outcomes to answer the question: Did the IT investment deliver the promised business value?

In order for IT to deliver full value, three objectives must be met (the first objective you're already familiar with).

1. IT has to be fully aligned to business strategies and direction.

2. Key risks have to be identified and controlled.

3. Compliance with laws, industry rules, and regulatory agencies must be demonstrated.

In light of many corporate failures and scandals, corporate and IT governance have a higher profile today than ever before. Risk management, oversight, and clear communication are all parts of governance.

IT GOVERNANCE

IT governance is part of a wider corporate governance activity but has its own specific focus. The benefits of effective IT governance are reduced costs and damages caused by IT failures as well as more trust, teamwork, and confidence in the use of IT and the people providing IT services.

Issues Driving the Need for IT Governance. The IT Governance Institute (*itgi.org/*) publishes on its site the finding of the IMPACT Programme's IT Governance Specialist Development Group (SDG). SDG found that the following issues drive the need for IT governance (IMPACT, 2005):

1. There is a general lack of accountability and not enough shared ownership and clarity of responsibilities for IT services and projects. The communication between customers (namely, the IT users) and providers has to improve and be based on joint accountability for IT initiatives.

2. There is a potentially widening gap between what IT departments think the business requires and what the business thinks the IT department is able to deliver.

3. Organizations need to obtain a better understanding of the value delivered by IT, both internally and from external suppliers. Measures are required in business (the customer's) terms to achieve this end.

4. Top management wants to understand "how is my organization doing with IT in comparison with other peer groups?"

5. Management needs to understand whether the infrastructure underpinning today's and tomorrow's IT (technology, people, processes) is capable of supporting expected business needs.

6. Because organizations are relying more and more on IT, management needs to be more aware of critical IT risks and whether they are being managed.

Individuals Concerned About IT Governance. Those individuals who are concerned about IT governance are:

- Top-level business leaders, which are the board, executives, managers, and especially heads of finance, operations, and IT
- Public relations and investor relations managers
- Internal and external auditors and regulators
- Middle-level business and IT management
- Supply chain and business partners
- Customers and shareholders

As the preceding lists of issues and concerned individuals indicate, IT governance is not just an IT issue or only of interest to the IT function. It is an integral part of corporate governance focused on improving the management and control of IT. Ultimately, it is the duty of the board of directors (BOD) to ensure that IT and other critical activities are effectively governed.

IT plays a pivotal role in improving corporate governance practices because most critical business processes are automated; managers rely on information provided by these processes for their decision making.

The governance structure within an organization can either facilitate IT–business alignment or hinder that alignment. The CIO oversees the IT division and is responsible for the company's technology direction. The CIO is a member of the C-suite of "chief officers" in the company who share authority in their respective areas of responsibility, such as CEO, chief financial officer (CFO), chief marketing officer (CMO), or chief compliance officer (CCO). To whom the CIO reports is telling of

TABLE 12.2 Important Skill Set of the CIO

Skills of CIOs that have shown to improve the IT governance and IT–business alignment include:

- *Political savvy*. Effectively understand other workers and use that knowledge to influence others to support organizational objectives.
- *Influence, leadership, and power*. Able to inspire a shared vision and influence subordinates and superiors.
- *Relationship management.* Build and maintain working relationships with coworkers and those external to the organization. Negotiate problem solutions without alienating those impacted. Understand others and get their cooperation in nonauthority relationships.
- *Resourcefulness*. Think strategically and make good decisions under pressure. Can set up complex work systems and engage in flexible problem resolution.
- *Strategic planning.* Capable of developing long-term objectives and strategies and translating vision into realistic business strategies.
- *Doing what it takes*. Persevering in the face of obstacles.
- *Leading employees*. Delegating work to employees effectively, broadening employee opportunities, and interacting fairly with employees.

how IT is perceived within the company. For example, if IT is perceived as a strategic weapon to grow revenues and increase operational effectiveness, then the CIO likely reports to the CEO. If IT is perceived as a cost-cutting center, the CIO likely reports to the CFO. Table 12.2 lists the important skills of CIOs.

WHAT IT GOVERNANCE COVERS

IT governance covers IT management and controls across five key areas:

1. Supports the strategy: Provides for strategic direction of IT and the alignment of IT and the business.

2. Delivers value: Confirms that the IT/business organization is designed to derive maximum business value from IT. Oversees the delivery of value by IT to the business and assesses ROI.

3. Risk management: Confirms that processes are in place to ensure that risks have been adequately managed. Includes assessment of the risk of IT investments.

4. Resource management: Provides high-level direction for sourcing and use of IT resources. Oversees funding of IT at the enterprise level. Ensures that there is an adequate IT capability and infrastructure to support current and expected business requirements.

5. IT performance management: (Refer also to the beginning of Section 12.2.) Verifies strategic compliance, or the achievement of strategic IT objectives. Measures IT performance and the contribution of IT to the business, including delivery of promised business value (IMPACT, 2005).

IT governance, like security, is not a one-time exercise or something achieved by a mandate or setting of rules. It requires a commitment from the top of the organization to instill a better way of dealing with the management and control of IT. IT governance is an ongoing activity that requires a continuous improvement mentality and responsiveness to the fast-changing IT environment. When companies run into legal or regulatory challenges, IT governance is what saves or dooms them.

Review Questions

1. What is the concern of IT governance?
2. Why is IT performance management a key part of IT governance?
3. In order for IT to deliver full value, what three objectives must be met?
4. Identify four issues driving the need for IT governance.
5. Who is concerned about IT governance?
6. What does IT governance cover?

12.3 Aligning IT with Business Strategy

Alignment is a complex management activity, and its complexity increases with the increasing complexity of organizations as the pace of global competition and technological change increases. IT–business alignment can be improved by focusing on the following activities:

1. **Understanding IT and corporate planning.** A prerequisite for effective IT–business alignment is for the CIO to understand business planning and for the CEO and business planners to understand their company's IT planning.
2. **CIO is a member of senior management.** The key to achieving IT–business alignment is for the CIO to attain strategic influence. Rather than being narrow technologists, CIOs must be both business- and technology-savvy.
3. **Shared culture and good communication.** The CIO must understand and buy into the corporate culture so that IS planning does not occur in isolation. Frequent, open, and effective communication is essential to ensure a shared culture and keep everyone aware of planning activities and business dynamics.
4. **Commitment to IT planning by senior management.** Senior management commitment to IT planning is essential to success.
5. **Multilevel links.** Links between business and IT plans should be made at the strategic, tactical, and operational levels.

STRATEGIC ROLE OF IT

Companies must determine the use, value, and impact of IT to identify opportunities that create value and support the strategic vision. This requires that the CIO and other senior IT staff closely interact with the CEO and the senior management in functional areas or business units. And the CIO must be in a position to influence how IT can assume a strategic role in the firm.

For example, at Toyota Motor Sales USA, headquartered in California, the new CIO Barbra Cooper arrived to find that six enterprise-wide IT projects had so overwhelmed the workload of the IS group that there was little time for communication with the business units (Wailgum, 2008). IS was viewed as an *order taker* rather than as a partner with whom to build solutions. CIO Cooper radically changed the structure of Toyota's IS department within six months to build close communication with business operations. A year later, the IS and the business units were working closely together when planning and implementing IT projects.

COMPETITIVE ADVANTAGE THROUGH IT

Competitive advantage is gained by a company by providing real or perceived value to customers. To determine how IT can provide a competitive advantage, the firm must know its products and services, its customers and competitors, its industry and related industries, and environmental forces—and have insight about how IT can enhance value for each of these areas. To understand the relationship of IT in providing a competitive advantage, we next consider the potential of a firm's IT resources to add value to a company.

Three characteristics of resources give firms the potential to create a competitive advantage:

- **Value.** Resources are a source of competitive advantage only when they are valuable. A resource has value to the extent that it enables a firm to implement strategies that improve efficiency and effectiveness. But even if valuable, resources that are equitably distributed across organizations are only commodities.
- **Rarity.** Resources must also be rare in order to confer competitive advantages.
- **Appropriability.** Appropriability refers to the ability of the firm to generate earnings from the resource. Even if a resource is rare and valuable, if the firm expends more effort or expense to obtain the resource than it generates through the resource, then the resource will not create a competitive advantage.

TABLE 12.3 Key Resource Attributes That Create Competitive Advantage

Resource Attributes	Description
Value	The degree to which a resource can help a firm improve efficiency or effectiveness
Rarity	The degree to which a resource is nonheterogeneously distributed across firms in an industry
Appropriability	The degree to which a firm can make use of a resource without incurring an expense that exceeds the value of the resource
Imitability	The degree to which a resource can be readily emulated
Mobility	The degree to which a resource is easy to transport
Substitutability	The degree to which another resource can be used in lieu of the original resource to achieve value

Many firms attempting to hire ERP-knowledgeable personnel in 1999–2000 discovered that they were unable to realize an ROI because of the higher salaries. Table 12.3 lists the three characteristics necessary to achieve competitive advantage and three additional factors needed to sustain it.

The first three characteristics described in Table 12.3 are used to characterize resources that can create an initial competitive advantage. In order for the competitive advantage to be sustained, however, the resources must be imitable, imperfectly mobile, and have low substitutability. **Imitability** is the feature that determines whether a competitor can imitate or copy the resource. **Mobility** (or *tradability*) refers to the degree to which a firm may easily acquire the resource necessary to imitate a rival's competitive advantage. Some resources, such as hardware and software, are easy to acquire and are thus highly mobile and unlikely to generate sustained competitive advantage. Even if a resource is rare, when it's possible to purchase or hire the resource, then the resource is mobile and incapable of contributing to a sustained advantage. Finally, **substitutability** refers to the ability of competing firms to utilize an alternative resource.

Information systems can contribute three types of resources to a firm: technology resources, technical capabilities, and IT managerial resources, as listed in Table 12.4.

Technology resources include the IT infrastructure, proprietary technology, hardware, and software. The creation of a successful infrastructure may take several years to achieve. Thus, even while competitors might readily purchase the same hardware and software, the combination of these resources to develop a flexible infrastructure is a complex task. It may take firms many years to catch up with the infrastructure capabilities of its competitors.

TABLE 12.4 IS Resources and Capabilities

IS Resource/Capability	Description	Relationship to Resource Attributes
Technology resources	Include infrastructure, proprietary technology, hardware, and software.	Not necessarily rare or valuable, but difficult to appropriate and imitate. Low mobility but a fair degree of substitutability.
IT skills	Include technical knowledge, development knowledge, and operational skills	Highly mobile, but less imitable or substitutable. Not necessarily rare but highly valuable.
Managerial IT resources	Include vendor and outsourcer relationship skills, market responsiveness, IS–business partnerships, IS planning, and management skills.	Somewhat more rare than the technology and IT skills resources. Also of higher value. High mobility given the short tenure of CIOs. Nonsubstitutable.

Technical capabilities include IS technical knowledge such as app development skills, IS development knowledge such as experience with social media or development platforms, and IS operations. Technical IT skills include the expertise needed to build and use IT apps.

Managerial resources include IS managerial resources such as vendor relationships, outsourcer relationship management, market responsiveness, IS–business partnerships, and IS planning and change management.

BUSINESS IMPROVEMENT OPPORTUNITY MATRIX

IT can improve many domains of business activity, as presented in the opportunity matrix shown in Table 12.5.

To ensure that business and IT executives have a common understanding of potential business improvements attainable through the use of IT, each of these benefits should be evaluated in terms of the value to be provided to the business. One or more improvements may be attained through IT. For example, if customer service, number 8 in Table 12.5, is expected to be improved through the use of IT in a package delivery service, such an improvement may be regarded as providing high impact value. The description of the business value of enhancing the customer service experience would state:

> *The currently high volume of customer complaints about late delivery of packages will be addressed with an automatically generated personalized e-mail message, to each customer experiencing late delivery, to provide notification of the revised delivery date. This e-mail communication also provides an opportunity for each customer to express any remaining concerns. The external focus on improving customer service will contribute to a positive image of the company.*

This process change to improve customer service may also improve process efficiencies, number 1 in the table, providing low-impact value to the business. The description of the business value of this process improvement would state:

> *Customer service agents will be freed from personally attending to all customer complaints, allowing them to focus on resolving the most serious complaints. This improved use of customer service agents' time is expected to improve operational efficiencies and costs.*

TABLE 12.5 Business Improvement Opportunity Matrix

Business Improvement with IT	High-Impact Value	Low-Impact Value	No Value	Description of the Business Value of the Improvement
1. Improve process efficiencies				
2. Increase market share and global reach				
3. Reach new markets, audiences, and channels				
4. Improve external partnering capabilities				
5. Enable internal collaboration				
6. Launch innovative product and service offerings				
7. Improve time to market				
8. Enhance customer service experience				
9. Improve information access and effectiveness in decision-making processes				
10. Bring about new business models				
11. Enable a business to gain, or simply maintain, a competitive advantage				
12. Other				

Sources: Compiled from Kesner (2003) and Center for CIO Leadership (2007).

Being able to explain how IT adds business value can be facilitated with this matrix. To provide a common understanding, this matrix serves as a tool for discussing and clarifying expectations concerning the potential impact of the improvements to the business. Clear, frequent, and effective communication is critical to achieving this potential.

IT DIVISION AND BUSINESS MANAGEMENT PARTNERSHIP

Including the CIO on the CEO's senior management team promotes a partnership between them. For example, at Walgreen Company, a leading drugstore chain, the CIO has been on the top-management team since the late 1990s (Worthen, 2007). This arrangement facilitated the delivery of a single IS to connect all Walgreen pharmacies, with continual improvements based on feedback and suggestions from both employees and customers. The CEO recognizes that including the CIO in strategy meetings encourages teamwork. To maintain this mutually beneficial relationship, the CIO must continually educate and update the other executives in the C-suite (chief executive) team about technological advances and capabilities relevant to the business needs.

The partnership between the IT division and business management can extend to fuse with the business, as you read in *IT at Work 12.1*. Such a fusion could be achieved with a new organizational structure, wherein the CIO becomes responsible for managing some core business functions. For example, the CIO at Hess Corporation, a leading energy company based in New York City, is part of a new organizational structure (Hoffman and Stedman, 2008). The CIO began managing several core business functions. Additionally, Hess Corporation is creating a joint IT and business group to develop new operating processes and advanced technologies. Comprised of IT workers, geologists, scientists, and other employees, this unit will report to the senior vice president of oil exploration and production.

IT at Work 12.1

The Strategic CIO

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It is not typical for a CIO to routinely work with business leaders on their strategy and translate it into action, and then be asked by the CEO to manage business strategy worldwide. Nor is it typical that the CEO asks the CIO to run a line of business in addition to the IT function. A CIO would not be expected to manage the process of opening 10,000 seasonal tax preparation locations and hiring 100,000 seasonal tax preparers, but that's what happened at H&R Block, a tax and financial services company. These responsibilities are typical for CIOs who are responsible for IT governance and supporting the business strategy. We'll refer to them as "strategic CIOs" for clarity.

The strategic CIO is a business leader who leverages IT to add value and gain a competitive advantage. The strategist's focus is on how a company creates shareholder value and serves its customers. Rather than being focused primarily on internal operations, the strategic CIO looks at the company from the outside-in by asking how the company is perceived by customers and how competitors apply IT to compete. The role of the strategic CIO is focused on business strategy and innovation. This broader, more business-oriented, and strategic focus is the direction for the CIO role.

Marc West, the senior VP and CIO at H&R Block, began as a "traditional CIO," focusing 95 percent of his efforts on the technology foundation. In preparing for tax season, CIO West was engaged in delivering tax preparation software for the company's seasonal storefront locations. This activity helped him to acquire insight into the core business, operations, and how customers are served. This further led him to compare what H&R Block was doing vis-à-vis the competition, thus gaining a big-picture perspective of the industry. He shared his strategic insights with the CEO and management team. Encouraged by the CEO, CIO West continued his "outside-inside" strategic assessment, gaining an industry-wide, business-oriented strategic mindset. The CEO then asked CIO West to lead a new line of business, driving growth in the commercial markets.

Sources: Compiled from Ehrlich and West (2007) and *hrblock.com*.

Discussion Questions: Why has the role of CIO expanded? What are the benefits of this strategic CIO role to the company?

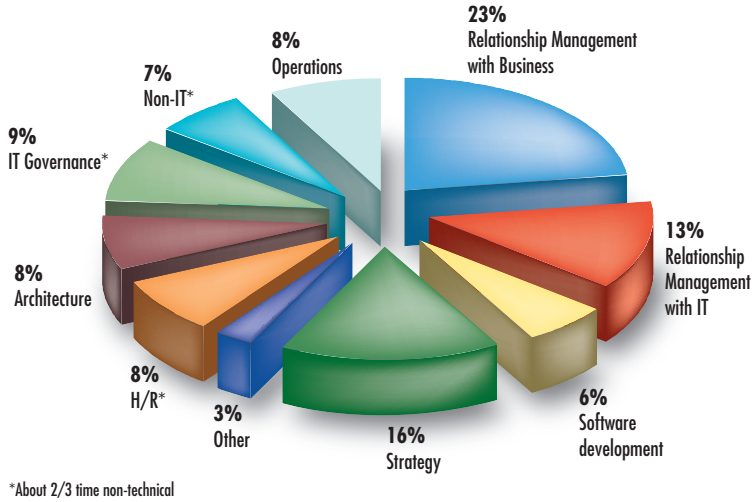

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Figure 12.3 How CIOs spend their time. (*Source: Luftman, 2007.*)

Alternatively, the CIO could work directly with other top executives to influence strategic directions, suggest changes in internal business processes, and lead a diversity of initiatives that encompass more than just technology projects. For example, the vice president of IT at PHH Mortgage, in Mount Laurel, New Jersey, works alongside the sales managers (Hoffman and Stedman, 2008). This working relationship has fostered a rapport between the CIO and sales executives. In discussions with the sales team about potential changes in some of the mortgage application processes, the CIO is able to take the lead on business improvement opportunities by communicating his understanding of concerns and offering insightful recommendations.

The CIO's focus on managing business activities is revealed by looking at how CIOs spend their time. As shown in Figure 12.3, about two-thirds of a CIO's time is spent on nontechnical duties, including relationship management with the business, strategy-related activities, non-IT activities, and other. The largest percentage among nontechnical duties (23 percent) is spent on managing relationships with business functional areas and business units (Luftman, 2007).

To realize the greatest potential from IT, the business strategy must include the IT strategy and the use of IT must support the business strategy. The next largest slice of the CIO's time (16 percent) is spent on business and IT strategy. Critical in addressing strategy is the alignment of business and IT strategies. To achieve this alignment, a firm must carefully plan its IT investments. We therefore now turn to the topic of the IT planning process.

Review Questions

1. How can the IT–business alignment be improved?
2. What are three characteristics of resources that give firms the potential to create a competitive advantage?
3. Describe the three types of resources that information systems can contribute to a firm.
4. Why is it important for the CIO to be included as a member of the CEO's senior management team?

12.4 IT Strategic Planning Process

CIOs undertake IT strategic planning on a yearly, quarterly, or monthly basis. A good IT planning process can help ensure that IT aligns, and stays aligned, within an organization. Because organizational goals change over time, it is not sufficient to develop a long-term IT strategy and not reexamine the strategy on a regular basis. For this reason, IT planning is an ongoing process.

IT at Work 12.2

IT Steering Committees

The corporate steering committee is a group of managers and staff representing various organizational units that is set up to establish IT priorities and to ensure that the IS department is meeting the needs of the enterprise. The committee's major tasks are:

- **Direction setting.** In linking the corporate strategy with the IT strategy, planning is the key activity.
- **Rationing.** The committee approves the allocation of resources for and within the information systems organization. This includes outsourcing policy.
- **Structuring.** The committee deals with how the IS department is positioned in the organization. The issue of centralization-decentralization of IT resources is resolved by the committee.
- **Staffing.** Key IT personnel decisions involve a consultation-and-approval process made by the committee, including outsourcing decisions.
- **Communicating.** Information regarding IT activities should flow freely.
- **Evaluating.** The committee should establish performance measures for the IS department and see that they are met. This includes the initiation of *service-level agreements* (SLAs).

The success of steering committees largely depends on the establishment of IT *governance*, formally established statements that direct the policies regarding IT alignment with organizational goals and allocation of resources.

The IT planning process results in a formal IT strategy or a reassessment each year or each quarter of the existing portfolio of IT resources.

IT STRATEGIC PLANNING PROCESS

Recall that the focus of IT strategy is on how IT creates business value. Typically, annual planning cycles are established to identify potentially beneficial IT services, to perform cost-benefit analyses, and to subject the list of potential projects to resource-allocation analysis. Often the entire process is conducted by an IT *steering committee*. See *IT at Work 12.2* for the duties of an IT steering committee.

Figure 12.4 presents the IT strategic planning process. The entire planning process begins with the creation of a strategic business plan. The *long-range IT plan*, sometimes referred to as the *strategic IT plan*, is then based on the strategic business

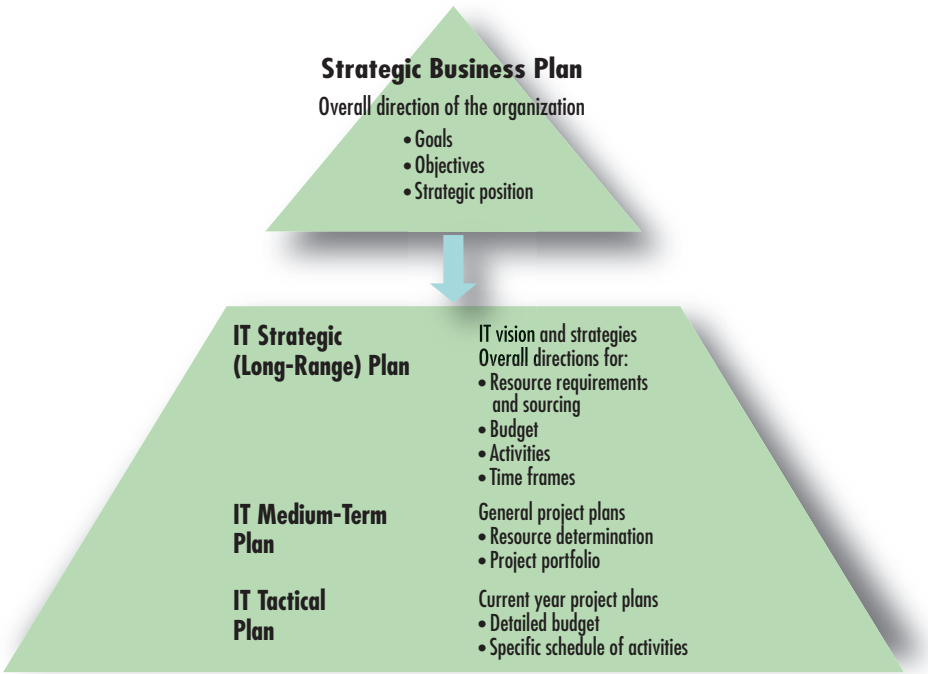

Figure 12.4 IT strategic planning process.

plan. The IT strategic plan starts with the IT vision and strategy, which defines the future concept of what IT should do to achieve the goals, objectives, and strategic position of the firm and how this will be achieved. The overall direction, requirements, and **sourcing** (i.e., outsourcing or insourcing) of resources—such as infrastructure, application services, data services, security services, IT governance, management architecture, budget, activities, and timeframes—are set for three to five years into the future. The planning process continues by addressing lower-level activities with a shorter timeframe.

The next level down is a *medium-term IT plan*, which identifies general project plans in terms of the specific requirements and sourcing of resources as well as the **project portfolio.** The project portfolio lists major resource projects, including infrastructure, application services, data services, and security services that are consistent with the long-range plan. Some companies may define their portfolio in terms of applications. The **applications portfolio** is a list of major approved IS projects that are also consistent with the long-range plan. Expectations for sourcing of resources in the project or applications portfolio should be driven by the business strategy. Since some of these projects will take more than a year to complete and others will not start in the current year, this plan extends over several years.

The third level is a *tactical plan*, which details budgets and schedules for current-year projects and activities. In reality, because of the rapid pace of change in technology and the environment, short-term plans may include major items not anticipated in the other plans.

The planning process just described is currently practiced by many organizations. Specifics of the IT planning process, of course, vary among organizations. For example, not all organizations have a high-level IT steering committee. Project priorities may be determined by the IT director, by his or her superior, by company politics, or even on a first-come, first-served basis.

The deliverables from the IT planning process should include the following: an evaluation of the strategic goals and directions of the organization and how IT is aligned; a new or revised IT vision and assessment of the state of the IT division; a statement of the strategies, objectives, and policies for the IT division; and the overall direction, requirements, and sourcing of resources.

TOOLS AND METHODOLOGIES OF IT STRATEGIC PLANNING

Several tools and methodologies are used to facilitate IT strategic planning. Most of these methodologies start with some investigation of strategy that checks the industry, competition, and competitiveness, and relates them to technology (*alignment*). Others help create and justify new uses of IT (*impact*). In the next section, we look briefly at some of these methodologies.

Business Service Management. Business service management is an approach for linking key performance indicators (KPIs) of IT to business goals to determine the impact on the business. KPIs are metrics that measure the actual performance of critical aspects of IT, such as essential projects and applications, servers, the network, and so forth, against predefined business goals, such as revenue growth, reduced costs, and lower risk. For a critical project, for example, performance metrics include the status of the project, the ability to track milestones to budget, and a view of how the IT staff spends its time (Biddick, 2008).

KPIs can be classified into two types. The first type includes those that measure *real-time performance or predict future results*. These KPIs assist in proactive, rather than reactive, responses to potential user and customer problems. For example, 80 percent of IT staff may be needed to work on active projects. An evaluation of KPIs may predict that the following month a projected slowdown of project activity will reduce the utilization rate to 70 percent, allowing time to adjust staffing or add more projects. The second type of KPI measures *results of past activity*. For example, an IT organization may have committed to an application availability rate of 99 percent for certain applications, such as a Web-based customer order entry system (Biddick, 2008).

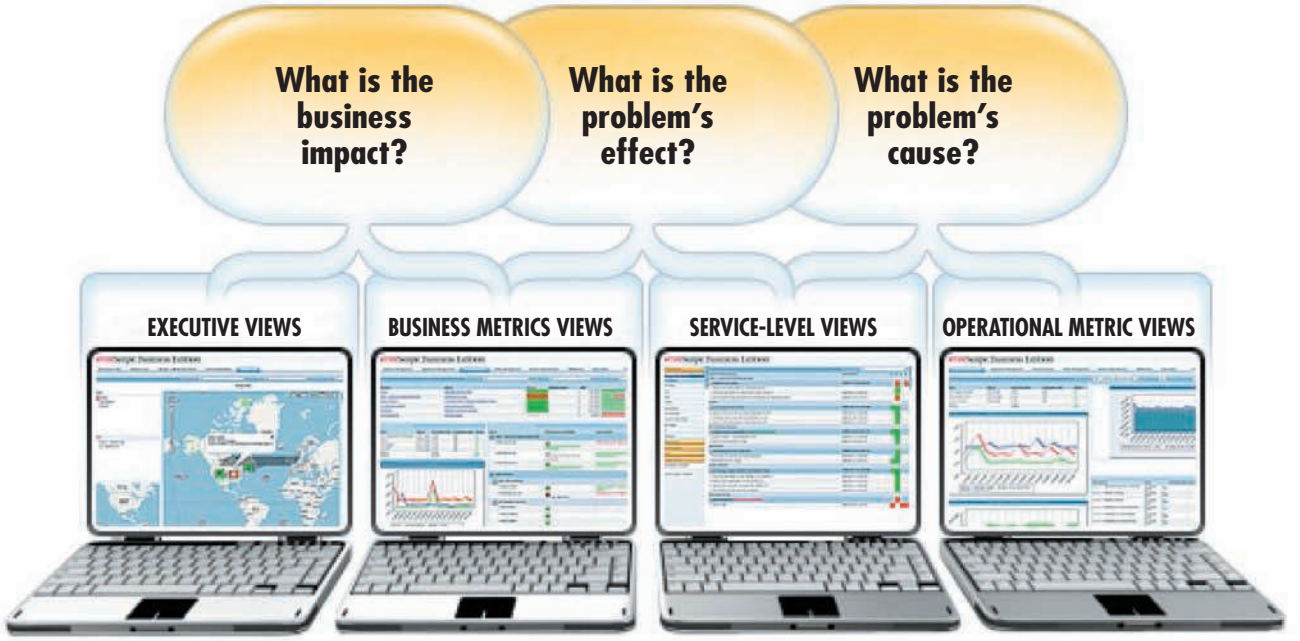

Figure 12.5 Business service management (from FireScope). FireScope delivers a single view into the business impact of IT operations by aggregating all IT and business metrics into real-time dashboards, customizable for the needs of each member of IT. (Used with permission.)

As shown in Figure 12.5, business service management software tools provide real-time dashboard views for tracking KPIs at the executive, functional business areas, services, and operations levels. Dashboards make it easier to understand and predict how IT impacts the business and how business impacts the IT architecture.

Business Systems Planning Model. The business systems planning (BSP) model was developed by IBM and has influenced other planning efforts such as Accenture's method/1. BSP is a top-down approach that starts with business strategies. It deals with two main building blocks—business processes and data classes—which become the basis of an information architecture. From this architecture, planners can define organizational databases and identify applications that support business strategies, as shown in Figure 12.6. BSP relies heavily on the use of metrics in the analysis of processes and data, with the ultimate goal of developing the information architecture.

Balanced Scorecard. Described by Robert Kaplan and David Norton in a number of articles published in the *Harvard Business Review* between 1992 and 1996, the **balanced scorecard** is a business management concept that transforms both financial

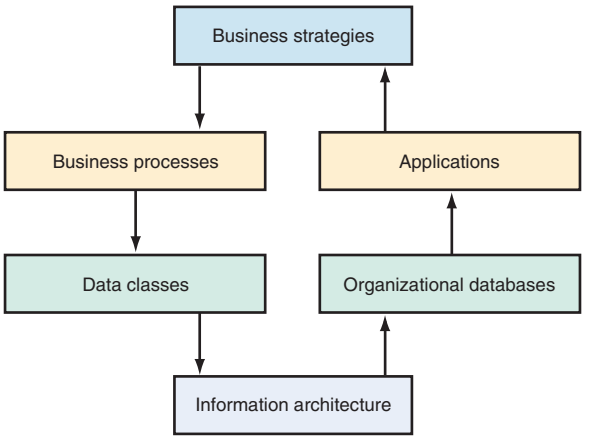

Figure 12.6 Business systems planning (BSP) approach.

and nonfinancial data into a detailed roadmap that helps the company measure performance.

Kaplan and Norton introduced the balanced scorecard as a way of measuring performance in companies. The major difference with Kaplan and Norton's scorecard was that it measured a company's performance in other than strictly financial terms. For example, it measures performance from any of the following perspectives:

- Customer perspective
- Internal business process perspective
- Learning and growth perspective
- Financial perspective

The balanced scorecard framework supplements traditional tangible financial measures with criteria that measure four intangible perspectives and address important questions, including the following (Kaplan and Norton, 2007):

1. How do customers see the company?
2. At what must the company excel?
3. Can the company continue to improve and create value?
4. How does the company appear to shareholders?

The balanced scorecard can be applied to link KPIs of IT to business goals to determine the impact on the business. The focus for the assessment could be, for example, the project portfolio or the applications portfolio. As shown in Table 12.6, the balanced scorecard can be used to assess the IT project portfolio of a retail department store chain. Projects are listed along the vertical dimension, and specific measures, critical to what the organization needs to track, are presented horizontally. The balanced scorecard helps managers to clarify and update strategy, align IT strategy with business strategy, link strategic objectives to long-term goals and annual budgets, identify and align strategic initiatives, and conduct periodic performance reviews to improve strategy (Kaplan and Norton, 2007).

Critical Success Factors Model. **Critical success factors (CSFs)** are the most essential things (factors) that must go right or be closely tracked in order to ensure the organization's survival and success. For companies dependent on the price of oil, oil prices would be a CSF. The *CSF approach* to IT planning was developed to help identify the information needs of managers. The fundamental assumption is that in every organization there are three to six key factors that, if done well, will result in the organization's success. The reverse is also true. The failure of these factors will result in some degree of failure. Therefore, organizations continuously measure performance in these areas, taking corrective action whenever necessary. CSFs also exist in business units, departments, and other organizational units.

TABLE 12.6 IT Project Balanced Scorecard

IT Project	Project's Role in Strategic Business Plan	Project's Evolving Versus Stable Knowledge	Degree of Change Needed in the Project	Where the Project Gets Sourced	Data's Public or Proprietary Nature	Project Budget
Infrastructure	Efficiency	Stable	Low	Outsourced	Proprietary	Small
Application services	Customer focus	Evolving	High	ERP software	Proprietary	High
Data services	Innovation	Evolving	High	Business intelligence software	Proprietary	High
Security services	Compliance requirement	Evolving	Low	Outsourced	Proprietary	Small

CSFs vary by sector—manufacturing, service, or government—and by specific industries within these categories. For organizations in the same industry, CSFs vary depending on whether the firms are market leaders or weaker competitors, where they are located, and what competitive strategies they follow. Environmental issues, such as the degree of regulation or amount of technology used, influence CSFs. In addition, CSFs change over time, based on temporary conditions, such as high interest rates or long-term trends.

IT planners identify CSFs by interviewing managers in an initial session and then refining CSFs in one or two additional sessions. Sample questions asked in the CSF approach are:

- What objectives are central to your organization?
- What are the critical factors that are essential to meeting these objectives?
- What decisions or actions are key to these critical factors?
- What variables underlie these decisions, and how are they measured?
- What information systems can supply these measures?

The first step following the interviews is to determine the organizational objectives for which the manager is responsible and then the factors that are critical to attaining these objectives. The second step is to select a small number of CSFs. The final step is to determine the information requirements for those CSFs and measure to see whether the CSFs are met. If they are not met, it is necessary to build appropriate applications. See Figure 12.7.

The critical success factors approach encourages managers to identify what is most important to their performance and then develop good indicators of performance in these areas.

Scenario Planning. **Scenario planning** is a methodology in which planners first create several scenarios; then a team compiles as many future events as possible that may influence the outcome of each scenario. This approach is used in planning situations that involve much uncertainty, like that of IT in general and e-commerce in particular. Five reasons to do scenario planning are:

1. To ensure that you are not focusing on catastrophe to the exclusion of opportunity
2. To help you allocate resources more prudently
3. To preserve your options
4. To ensure that you are not still "fighting the last war"
5. To give you the opportunity to rehearse testing and training of people to go through the process.

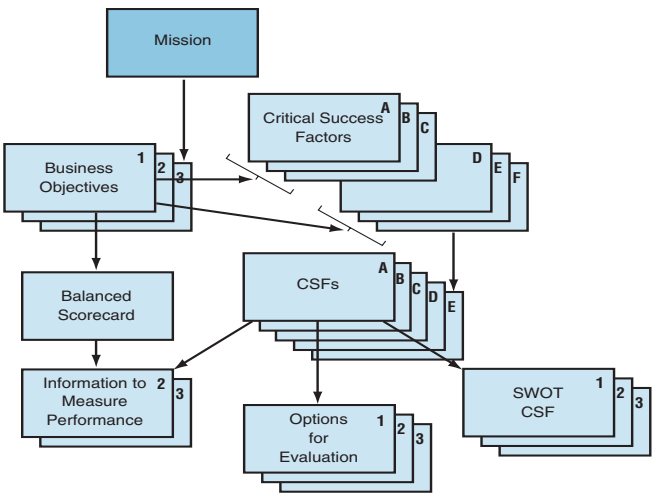

Figure 12.7 Critical success factors—basic processes.

TABLE 12.7 Essential Steps of Scenario Planning

- Determine the scope and timeframe of the scenario you are flashing out.
- Identify the current assumptions and mental models of individuals who influence these decisions.
- Create a manageable number of divergent, yet plausible, scenarios. Spell out the underlying assumptions of how each of these imagined futures might evolve.
- Test the impact of key variables in each scenario.
- Develop action plans based on either (1) the solutions that play most robustly across scenarios or (2) the most desirable outcome toward which a company can direct its efforts.
- Monitor events as they unfold to test the corporate direction; be prepared to modify it as required.

The educational experience that results from this process includes

- Stretching your mind beyond the groupthink that can slowly and imperceptibly produce a sameness of minds among top team members in any organization.
- Learning the ways in which seemingly remote potential developments may have repercussions that hit close to home.
- Learning how you and your colleagues might respond under both adverse and favorable circumstances.

Scenario planning follows a rigorous process; the essential steps are summarized in Table 12.7. Scenario planning has been widely used by major corporations to facilitate IT planning (e.g., *ncri.com* and *gbn.com*). It has also been particularly important to e-commerce planning. For instance, creating customer scenarios helps the company better fit the products and services into the real lives of the customers, resulting in sales expansion and customer loyalty. National Semiconductor, Tesco, and *Buzzsaw.com*, for example, have used customer scenarios to strengthen customer relationships, to guide business strategy, and to deliver business value.

A major aspect of IT planning is properly allocating IT resources to the right set of projects. Organizations simply cannot afford to develop or purchase each application or undertake each application enhancement that business units and end users might like. The IT steering committee has an important responsibility in deciding how IT resources will be allocated.

Resource Allocation. **Resource allocation** consists of developing the plans for hardware, software, data communications and networks, facilities, personnel, and financial resources needed to execute the master development plan, as defined in the requirements analysis. Resource allocation, as you read in Chapter 6, is a contentious process in most organizations because opportunities and requests for spending far exceed the available funds. This can lead to intense, highly political competition among organizational units, which makes it difficult to objectively identify the most desirable investments.

Requests for funding approval from the steering committee fall into two categories. The first category consists of projects and infrastructure that are critical for the organization to stay in business. For example, it may be imperative to purchase or upgrade hardware if the network, disk drives, or processor on the main computer is approaching capacity limits. Obtaining approval for this type of spending is largely a matter of communicating the gravity of the problems to decision makers.

The second category includes less critical items, such as new projects, maintenance or upgrades of existing systems, and infrastructure to support these systems and future needs. Approval for projects in this category may become more difficult to obtain because the IS department is already receiving funding for the critical projects. Generally speaking, organizations set aside funds for the first category of projects and then use the remainder of the IT budget for the second category.

Review Questions

1. Why must IT strategic planning be revisited on a regular basis?
2. Describe the committee that usually conducts the IT strategic planning process. Who is included on this committee? What are the major tasks of this committee? On what is this committee's success dependent?
3. What is the focus of IT strategy?
4. Describe the IT strategic planning process.
5. Describe the project portfolio. Describe the applications portfolio. When are these portfolios developed?
6. What tools and methodologies are available to assist in the IT strategic planning process? How are these methods used to help organizations?
7. What is resource allocation? What are the two types of funding requests?

12.5 IT Outsourcing Strategies

The core competencies of many organizations—the things they do best and that represent their competitive strengths—are in retailing, services, manufacturing, or some other function. IT is an *enabler* only, and it is complex, expensive, and constantly changing. IT is difficult to manage, even for organizations with above-average IT management skills. Therefore, many organizations have implemented outsourcing as an IT strategy. Outsourcing can be done domestically or offshore, or via cloud computing or SaaS. Those topics are covered in other chapters but are mentioned here because they are examples of IT outsourcing strategies.

Cloud computing is not simply about outsourcing the routine computing tasks. It's about the delivery of real business services, enabled by the applications needed to support them, and then powered by computing and network infrastructure to host and deliver them.

SaaS provides an ability to easily extend internal processes outside the organizational boundary to support **business processing outsourcing (BPO)** arrangements and can become a strong competitive advantage for an organization today and in the future. BPO is the process of hiring another company to handle business activities for you.

BPO AND ITES

BPO is distinct from IT outsourcing, which focuses on hiring a third-party company or service provider to do IT-related activities, such as application management and application development, data center operations, or testing and quality assurance.

Originally, BPO consisted of outsourcing standard processes, such as payroll; it then expanded to employee benefits management. Currently, BPO includes many functions that are considered noncore to the primary business strategy, such as financial and administration processes, human resource functions, call center and customer service activities, and accounting.

These outsourcing deals are multiyear contracts that can run into hundreds of millions of dollars. Often, the people performing the work internally for the client firm are transferred and become employees of the service provider. Dominant outsourcing service providers in the BPO fields—some of which also dominate the IT outsourcing business—are IBM, Accenture, and Hewitt Associates in the United States and European and Asian companies Capgemini, Genpact, TCS, Wipro, and Infosys. Many of these BPO efforts involve offshoring, with India one of the most popular locations for BPO activities.

BPO is also referred to as **ITES,** or **information technology-enabled services.** Since most business processes include some form of automation, IT "enables" these services to be performed.

Andrew Pery, chief marketing officer for document management company Kofax (*kofax.com/*), predicts the BPO market "will likely outgrow all segments of the IT industry. There is increased competition and increased choice."

IT at Work 12.3

eBay Challenging Transition to BPO

Since its 1998 IPO, eBay has gone from being an online experiment in consumer-to-consumer e-commerce to a Fortune 500 enterprise that sells $60 billion in goods annually. It supports 88 million individual buyers and sellers, plus an expanding list of small businesses. This metamorphosis was not without growing pains. Exploding demand for eBay's services created enviable, but staggering, challenges. By 2004, eBay's annual revenues had exceeded $3 billion. Up to then, its accounts payable (AP) function had been able to keep up with the exponentially growing workload. The AP function was a critical system because sellers expected to get paid instantaneously. It was foreseeable that a much larger transaction accounting capacity would be needed than the current IT structure could deliver quickly. eBay's acquisition of several companies with disparate AP processes created additional integration challenges.

Outsourcing Challenges and Lessons Learned. eBay turned to outsourcing for a solution that would facilitate transaction processing of accounts. In early 2005, eBay migrated all of its AP operations to Genpact. Genpact (*genpact.com/*) is a global leader in business process and technology management. The migration of AP and other business processes to BPO provider Genpact was not without challenges but was ultimately a success. Six lessons that eBay and Genpact learned from the BPO implementation are the following:

1. **Manage change** by securing the commitment of senior leaders in an overt fashion and by recognizing subtle cultural differences that can undermine initial transition efforts.
2. **Assess organizational readiness** for a BPO transition from a mental and technical standpoint, and set realistic expectations and manage them actively.
3. **Anticipate risks and formulate a plan for mitigating them,** beginning with a strategy for dealing with "loss of control" threats, both real and imagined.
4. **Build project-management infrastructure** that recognizes that the "process of transition" needs to be managed as carefully as processes being transitioned. Mapping how the AP process should look post-transition, and how it will be managed end-to-end, and by whom, are important.
5. **Create a governance mechanism** that can discreetly collect feedback from the transition project manager and provide formal executive oversight and guidance. Form an executive steering committee that includes two senior managers from each organization and representation from all business units impacted by BPO.
6. **Properly define how success will be measured,** both qualitatively and quantitatively. Identifying the right benchmarks for success and vigilantly measuring efforts against them over time are critical.

Performance Improvements. The transition was far from perfect at first, but hard lessons learned early helped achieve impressive results in time. Year-end 2009 revenues were triple 2004 revenues, and AP transaction volume and headcount doubled, but at a much low cost per volume. On-time payments grew to 30 percent. In other words, more volume is now being handled and being handled more effectively per AP person. This success paved the way for migration of other eBay transaction accounting processes. From 2006 to early 2008, eBay outsourced its global vendor/supplier maintenance and general ledger (GL) activities.

Discussion Questions: Why is the ability to process AP a critical success factor for eBay? Why did eBay choose outsourcing at its IT strategy instead of in-house development? Why did eBay rely on Genpact for its BPO transition? Given that Genpact is a global leader in business process and technology management, why did eBay encounter challenges?

Sources: Compiled from Genpact (2010) and *OutsourcingPapers.com* (2010).

Why is the BPO industry changing? Don Schulman, general Manager for finance and administration at IBM, gives two reasons (Rosenthal, 2010).

- The economy has triggered a broader group of buyers to consider BPO as a viable option. In an era where companies are challenged to do more with less, buyers are seeking strategic partnerships that enable them to accelerate transformation.
- The industry has matured. It's no longer about price, cost, and labor arbitrage. The future will be about enterprise business outcomes, process optimization, and cloud computing.

eBay relies on BPO, as you read in *IT at Work 12.3.*

FACTORS DRIVING GROWTH IN OUTSOURCING AS AN IT STRATEGY

Since the late 1980s, many organizations have outsourced the *majority of their IT functions*, rather than just incidental parts. The trend became classic in 1989 when Eastman Kodak transferred its data centers to IBM under a 10-year, $500 million contract. This example, at a prominent multibillion-dollar company, gave a clear

signal that outsourcing was a legitimate IT strategy. Since then, many mega outsourcing deals have been announced, some for several billion dollars. The trend, however, has turned away from the megadeal in favor of the *multivendor approach,* incorporating the services of several best-of-breed vendors to meet IT demands.

The major reasons why organizations are increasingly outsourcing are:

- It allows a focus on core competency, as you read in the AstraZeneca opening case.
- It's a cheaper and/or faster way to gain or enhance IT capabilities.
- Doing so cuts operational costs.
- Offshoring has become a more accepted IT strategy.
- Cloud computing and SaaS have proven to be effective IT strategies.

Increasingly, organizations are leveraging existing *global cloud infrastructures* from companies like Amazon, Google, Rackspace, and Windows Azure. Established companies are more willing to outsource company-critical functions in an effort to reduce costs. And new start-up companies typically outsource and rely on SaaS to avoid upfront IT costs. For example, S3, one of Amazon's Web services, lets businesses store their data in the cloud, avoiding the need to operate their own servers. S3 is part of the same online infrastructure that Amazon uses to run its own business. Twitter uses S3, as does *The New York Times* to store and deliver articles from its historical archives. Outsourcing companies have started to offer some interesting new business models and services around cloud computing. These innovative new IT models have added to the number of options to be considered in IT strategic planning.

CIOs are focusing more on outsourcing to deliver business value, beyond the traditional areas of cost savings and operational efficiencies, in response to an increasingly dynamic environment (IBM, 2008). The environment is characterized by rapid developments in IT; firms that are being transformed by global expansion, mergers, and acquisitions; and new disruptive business models and mobile capabilities. Benefits of outsourcing are listed in Table 12.8.

RISK CONCERNS AND HIDDEN COSTS

As companies find that their business strategy is increasingly tied to IT solutions, the concerns about outsourcing risks increase. Risks associated with outsourcing are:

- *Shirking:* The vendor deliberately underperforms while claiming full payment; for example, billing for more hours than were worked and/or providing excellent staff at first and later replacing them with less qualified ones.
- *Poaching:* The vendor develops a strategic application for a client and then uses it for other clients.
- *Opportunistic repricing:* When a client enters into a long-term contract with a vendor, the vendor changes financial terms at some point or overcharges for unanticipated enhancements and contract extensions.

Other risks are possible breach of contract by the vendor or its inability to deliver, vendor lock-in, loss of control over data, and loss of employee morale.

Depending on what is outsourced and to whom, an organization might end up spending 10 percent above the budgeted amount to set up the relationship and manage it over time. The budgeted amount may increase anywhere from 15 to 65 percent when outsourcing is sent offshore and the costs of travel and cultural differences are added in.

OFFSHORING

Offshoring (or offshore outsourcing) of software development has become a common practice due to global markets, lower costs, and increased access to skilled labor.

TABLE 12.8 Benefits of Outsourcing

Financial
- Avoidance of heavy capital investment, thereby releasing funds for other uses
- Improved cash flow and cost accountability
- Improved cost benefits from economies of scale and from sharing hardware, software, and personnel
- Less need for expensive office space

Technical
- Access to new information technologies
- Ability to achieve technological improvements more easily
- Faster application development and placement of IT apps into service

Management
- Concentration on developing and running core business activity; improved company focus
- Delegation of IT development (design, production, and acquisition) and operational responsibility to suppliers
- Elimination of need to recruit and retain competent IT staff
- Reduced risk of bad software

Human Resources
- Opportunity to draw on specialist skills available from a pool of expertise, when needed
- Enriched career development and opportunities for remaining staff

Quality
- Clearly defined *service levels*
- Improved performance accountability

Flexibility
- Quick response to business demands (agility)
- Ability to handle IT peaks and valleys more effectively (flexibility)

About one-third of Fortune 500 companies outsource software development to software companies in India.

It is not only the cost and the technical capabilities that matter. Several other factors to consider are the business and political climates in the selected country; the quality of the infrastructure; and risks involving such things as IT competency, human capital, the economy, the legal environment, and cultural differences.

Duke University's *Center for International Business Education and Research* studied actual offshoring results. According to this study, Fortune 500 companies reduced costs by offshoring—63 percent of the companies achieved over 30 percent annual savings and 14 percent of them achieved savings over 50 percent. The respondents were overwhelmingly satisfied with their offshore operations. Three-quarters (72 percent) said their offshore implementations met or exceeded their expected cost savings. Almost one-third of the respondents (31 percent) achieved their service-level goals within the first five months of their contracts, while 75 percent did so within 12 months. The study concluded that "offshoring delivers faster results than average domestic improvement efforts." Even though these are very general results, offshoring success stories ease the fears about the risks of offshoring.

According to a mid-2009 report by AMR Research Inc. on the state of IT outsourcing, roughly 80 percent of enterprises planned to increase their amount of IT offshoring or keep it the same.

Based on case studies, the types of work that are not readily offshored include the following:

- Work that has not been routinized
- Work that if offshored would result in the client company losing too much control over critical operations
- Situations in which offshoring would place the client company at too great a risk to its data security, data privacy, or intellectual property and proprietary information
- Business activities that rely on an uncommon combination of specific application-domain knowledge and IT knowledge in order to do the work properly.

IT at Work 12.4 gives an example of insourcing becomes preferable to outsourcing.

THE OUTSOURCING LIFE CYCLE

The International Association of Outsourcing Professionals (IAOP) has defined 9 critical stages in the outsourcing life cycle that managers need to understand prior to outsourcing (IAOP, 2009).

1. Strategy: Outsourcing is a strategic decision that is typically developed at senior levels within a business. It may be part of a larger strategy to move the company to a leveraged business model and to focus on core competencies. Or it may be done to save net costs or due to a lack of internal resources. Outsourcing may act as a key differentiator that will give a business a competitive advantage over its competitors. Too few businesses consider taking legal counsel at this stage, but they should. For example, difficulties about licensing, intellectual property rights, or a preexisting contractual or leasing arrangement require legal expertise.

IT at Work 12.4

JP Morgan Chase Moves from Outsourcing to Insourcing

IS FIN

JP Morgan Chase is one of the world's largest financial institutions, with more than $1.2 trillion in assets. In September 2004 Chase scrapped a seven-year, $5 billion IT outsourcing contract with IBM after its $58 billion acquisition of Bank One. The merger automatically voided the outsourcing contract. As a result, the company carefully evaluated its sourcing options over two to three months and decided to bring IT back in-house, a strategy known as **insourcing.** The acquisition created massive economies of scale, and such a large organization is able to attract and retain talented IT professionals. Furthermore, CIO Austin Adams achieved early career success by building on his ability to integrate bank mergers quickly and make the merged entity more competitive through the use of technology.

People who oppose outsourcing, especially offshoring, declared the "end of outsourcing." As a matter of fact, Adams, who pushed for the scrapping, said that his move was greatly misunderstood by the media, which pegged him as a patriot trying to keep IT jobs in the United States. "I am clearly an advocate of offshoring," he said. While in the case of such a large bank there was a reason for insourcing, mainly to get a better competitive advantage from IT, Adams believes that in smaller organizations, large-scale outsourcing is logical. Furthermore, Adams manages over 3,000 offshore employees in India, who work in the bank's call center and do basic operations and accounting functions. This offshoring is expected to grow rapidly.

Adams was key in the decision to insource IT at JP Morgan Chase and offers his observations:

- The cancellation was driven mainly by the merger with Bank One, which made the combined bank very large.
- Outsourcing of major parts of mission-critical technologies is not a best solution for a large firm. Technology development should be in-house; support services can be outsourced.
- Four criteria were used to determine what and how much to outsource: (1) the size of the company (should be large enough to attract good IS employees), (2) the cost of outsourcing vs. the cost of insourcing, (3) the interest level of top management in having and properly managing IT assets, and (4) the financial arrangements of the outsourcing.
- It may be difficult to align business and technology objectives when large-scale outsourcing exists.
- The insourcing includes data centers, help desks, data processing networks, and systems development.
- Buying technology directly from vendors saved the bank a considerable amount of money (10 to 15 percent).

Sources: Compiled from Adams (2006) and Barrett (2006).

Discussion Questions: How can one determine when a company is large enough for insourcing? How important is the financial consideration? How accurate is it?

2. Reassessment: This stage is not given enough consideration. But organizations should look again at their business processes, IT capabilities, internal supply, or other problems to see if they could be reengineered to meet the requirements so that outsourcing is not needed.

3. Selection: This stage involves identifying and defining the work to be outsourced, as well as the selection of the vendors using RFI (request for information) or RFP (request for proposals) processes. The best-value outsourcer is selected.

4. Negotiation: In this phase, contracts, schedules, and agreements are negotiated by someone experienced in these issues. Then the final contract is reviewed extensively before signing. This negotiation process must involve adequate resources and senior executives from both sides—the key issues in a long-term relationship, such as outsourcing, are too important not to justify executive engagement from supplier and customer.

5. Implementation: This phase involves the start-up activities of planning the transition and the implementation of the outsourced agreement, as well as establishing the detailed budget and administrative functions needed for its management and formal launching of the program.

6. Oversight management: This phase encompasses all ongoing activities required to manage the program and achieve the contracted results. Specifically, this includes liaison between the customers and the supplier, performance monitoring, contract administration, vendor/partnership management, delivery integration, and vendor transition. Inevitably, stresses will develop in a contract, and it is important for both sides to take an adult approach to contract interpretation. Remember that these are long-term relationships that need to flex with time.

7. Build completion: This phase covers all completion activities of the build phase, including any development program, and then acceptance and the introduction of new services.

8. Change: All complex outsourcing contracts will be subject to change and alteration. These are either run as minor changes to the outsourcing contract or major changes, which might involve a retendering process. The contract will—or should—have built into it a contract change procedure to deal with changes that are in the broad scope of the original procurement.

9. Exit: All outsourcing relationships end either because the contract has expired, by mutual agreement, or because the outsourcing relationship has failed. The terms of the contract become very important at this time.

Review Questions

1. What is outsourcing?
2. What are some of the major reasons for outsourcing?
3. What IT functions are outsourced?
4. Distinguish between mega outsourcing and the multivendor approach to outsourcing.
5. What are the benefits of outsourcing? What are the risks of outsourcing?
6. Discuss the strategies organizations should consider in managing the risks associated with outsourcing contracts.
7. Distinguish between outsourcing and offshore outsourcing.
8. What types of work are not readily outsourced offshore?
9. Describe a tool useful in measuring the business value of outsourcing relationships.

Key Terms

applications portfolio *374*
balanced scorecard *375*
business processing outsourcing (BPO) *379*
business strategy *364*
critical success factors (CSFs) *376*
in-house development *363*
IT–business alignment *364*
ITES (information technology-enabled services) *379*
IT governance *365*
IT performance management *365*
IT strategic planning *362*
IT strategy *364*
mission statement *364*

objectives *364*
offshoring *363*
onshore sourcing *363*
outsource relationship management (ORM) *360*
outsourcing *363*
project portfolio *374*
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scenario planning *377*
sourcing *374*
strategy *364*
target *364*
vertically integrated company *361*
vision statement *364*

Chapter Highlights and Insights

(Numbers refer to Learning Objectives)

1 Because of the close alignment between IT and business strategies, IT and other business managers need to share responsibility in developing IT strategic plans.

1 IT strategic alignment ensures that IS priorities, decisions, and projects are consistent with the needs of the entire business.

1 The business strategy and IT strategy must be aligned, with shared ownership and shared governance of IT among all members of the senior executive team.

2 The benefits of effective IT governance are reduced costs and damages caused by IT failures as well as more trust, teamwork, and confidence in the use of IT and the people providing IT services.

3 IT can add value to a company in one of two general ways—either *directly* by *reducing costs* or *indirectly* by *increasing revenues.*

4 The focus of IT strategy is on how IT creates business value.

4 The entire planning process begins with the creation of a strategic business plan. The *long-range IT plan,* or *strategic IT plan*, is then based on the strategic business plan. The IT strategic plan starts with the IT vision and strategy.

4 The planning process also addresses lower-level activities with a shorter timeframe. A *medium-term IT plan* identifies general project plans in terms of the specific requirements and sourcing of resources as well as the project portfolio. Some companies may also define their application portfolio.

4 Several tools and methodologies facilitate IT strategic planning, including business service management, the business systems planning (BSP) model, the balanced scorecard, critical success factors (CSFs), and scenario planning.

5 The major reasons for outsourcing include a desire to focus on core competency, cost reduction, improved quality, increased speed to market, and faster innovation.

5 Outsourcing may reduce IT costs and can make it possible for organizations to concentrate on their core competencies. However, outsourcing may reduce the company's flexibility to find the best IT fit for the business, and it may also pose a security risk. In making a decision to outsource, executives should consider major risk areas.

5 Outsourcing is a viable option for many organizations, providing services at a lower cost, transferring risk to a third party, and easing the burden of providing routine services. However, outsourcing can also require more up-front effort during initial contract negotiations to develop service-level agreements (SLAs) that ensure the outsourcer will adhere to public sector requirements and government regulations.

Questions for Discussion

1. Vinay Gupta, president and CEO of Janeeva, which sells software to help companies manage outsourcing relationships, gave this advice: "I would strongly encourage business owners to visit the vendor's facilities. There are a lot of fly-by-night operators, so you want to make sure you have touched and seen the facility before you hand them your business. And I would do at least a 30-day free pilot with the provider. You want to see if it is a good fit and find out who you will be interacting with on a day-to-day basis." Not all companies follow this advice. Discuss why companies would or would not take these precautions when setting up an outsourcing relationship.
2. What might be some reasons why companies consider outsourcing?
3. What are the benefits and disadvantages of outsourcing work/jobs to other companies within the country?
4. What are the benefits and disadvantages of offshoring work/jobs to other countries, for example, to China or India? Compare your answers to your answers to questions 1 and 2 about outsourcing and offshoring.
5. What issues does IT governance cover?
6. Why is IT governance the responsibility of the BOD?
7. What does failure to properly align IT with the organizational strategy result in?
8. Why does IT–business alignment continue to be an important issue for CIOs?
9. What does successful IT–business alignment require?
10. Discuss how a CIO might interact with executive management as technology becomes increasingly central to a business.
11. Three characteristics of resources give firms the potential to create a competitive advantage. Discuss the potential of a firm's IT resources to add value to a company.
12. Discuss how the partnership between the IT division and business management can extend to fuse with the business.
13. Describe the IT strategic planning process.
14. What tools facilitate IT strategic planning?
15. Describe strategies for outsourcing.
16. Describe how a company might assess the business value delivered by an outsourcing relationship.

Exercises and Projects

1. Read the *Business Case* at the end of the chapter. Apply the balanced scorecard method to address the four important questions within the balanced scorecard framework.
2. Visit the Web site of *Amazon.com*. Click on "Careers at Amazon" and read "About Amazon." Begin applying the business systems planning (BSP) approach by identifying Amazon's business strategies and what applications support these strategies.
3. Consider the airline industry. Identify how IT adds business value in this industry. Be sure to address value added both directly and indirectly by IT.
4. Visit *teradatastudentnetwork.com*. Read and answer the questions to the case "Data Warehousing Supports Corporate Strategy at First American Corporation." Describe the customer relationship–oriented strategy of First American Corporation and how it is supported by IT. Contrast this strategy with that of other financial service companies.
5. Select two companies with which you are familiar. Find their mission statement and current goals (plans). Explain how IT adds value in achieving each of these goals.
6. Identify reasons why the alignment of business strategy and IT strategy might not be achieved.

Group Assignments and Projects

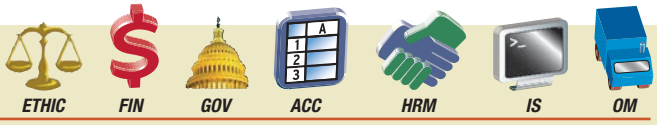
1. Innovative use of IT has become increasingly important in the global economy. Choose multiple industries and provide an example company for each industry in which IT plays a strategic role by adding value and providing a competitive advantage through innovative application of IT. Now identify competitive counterpart companies for which IT does not play a strategic role. Report on the successes/failures of each pair of companies.
2. Considerable discussions and disagreements occur among IT professionals regarding outsourcing. Divide the group into two parts: One will defend the strategy of large-scale outsourcing. One will oppose it. Start by collecting recent material at *google.com* and *cio.com*. Consider the issue of offshore outsourcing.
3. Each group searches nonvendor blogs or Web sites for opinions, risks, successes, and failures on outsourcing. Compare results.

Internet Exercises

1. Visit *cio.com* to find articles addressing the changing role of the CIO. Read these articles and write a report highlighting the changes.
2. Visit the IBM CIO Interaction Channel at *http://www-935.ibm.com/services/ie/cio*. This site showcases insights and perspectives on the issues that matter most to CIOs, including the most important one of all—aligning IT with overall business goals. Select a topic that interests you, read a report on that topic, and summarize the main points of the report.
3. Visit *Amazon.com*. Discuss how IT adds value to the customer's purchase experience at *Amazon.com*.
4. Visit Cognos at *cognos.com* and do a search on balanced scorecard software. Identify and describe their balanced scorecard software product.
5. Visit FireScope at *firescope.com*. Discuss how business service management software tools provide real-time dashboard views for tracking key performance indicators at the executive, functional business areas, services, and operations levels.
6. Visit *accenture.com* and do a search on outsourcing. Prepare a report that overviews the IT outsourcing services offered by Accenture. Do the same for one other large international accountancy and professional services firms such as Deloitte at *deloitte.com*, Ernst & Young at *ey.com*, KPMG at *kpmg.com*, or PricewaterhouseCoopers at *pwc.com*.
7. Visit the Web site for the Association for Computing Machinery (ACM) and access its report on "Globalization and Offshoring of Software" at *acm.org/globalizationreport*. Select two of the case studies presented in Section 4.2 on pages 136–152. Write a report comparing and contrasting the two companies.

BUSINESS CASE

Kimberly-Clark Maps IT to Its Global Business Plan



Kimberly-Clark (K-C) Corporation (*kimberly-clark.com*), a multinational consumer products manufacturer headquartered in Dallas, Texas, is committed to using innovation to become an indispensable business partner. As a leading global health and hygiene company, Kimberly-Clark's brands, such as Kleenex and Huggies, are sold in more than 150 countries. K-C has operations in 37 countries and employs more than 55,000 people worldwide. K-C announced the following results for 2009–2010:

- 2009 4Q net sales increased 8 percent to $5.0 billion.

- 2009 4Q cash provided by operations rose 48 percent to $1.0 billion.
- The company reaffirmed top- and bottom-line growth objectives through 2015.

K-C Global Business Plan

One of the objectives of K-C's global business plan was to build on its key capabilities of customer development, innovation, and marketing to sustain its growth rate. (Other growth options are mergers and acquisitions.) To achieve this objective, K-C partnered with its large retail customers, such as Kroger, Safeway, Target, and Walmart. K-C establishes mutually beneficial relationships with its retail customers, shares information and best practices, and collaborates on new product development. Strengthening relationships with key retail customers is essential to the company's growth plans.

Aligning IT with the Strategic Plan

CIO Ramon Baez recognizes that the best way to build relationships is through functional departments, such as R&D and marketing. IT business partners work in the functional areas but report directly to the CIO and recommend IT investment opportunities to Baez. He uses a portfolio approach to evaluate opportunities and get CEO support for worthy investments. IT has become more strategically aligned as a result of four features:

1. R&D is an important functional area that works with IT for ongoing innovation.

2. Changing the organizational structure to place senior-level IT staffers into functional areas engages IT in the creation of business ideas.

3. The portfolio approach, managed by the CIO, allows cross-functional opportunities to be evaluated, with worthwhile ideas moved forward to the CEO for funding approval.

K-C recognizes that IT can improve relationships with retailers by helping them sell more products. Specifically, IT can improve efficiency, effectiveness, and data collection and analysis. Delivering good information to decision makers more quickly drives new ideas to improve the shopping experience and develop new product concepts and innovations. Innovative approaches to assess consumer shopping behavior bring insights to improve in-store designs and merchandising to encourage purchases.

The Innovation Design Studio

In May 2007, Kimberly-Clark opened its Innovation Design Studio in Neenah, Wisconsin, which includes a life-sized 3-D virtual reality system. Visitors, including store managers and consumers, are surrounded with full-length rear-projection screens, creating a virtual store powered by applications running on eight Hewlett-Packard PCs. In this simulated shopping experience, a virtual store takes on the look and feel of a specific retail store. For example, the simulated Target, a discount retail chain, has the same red bull's-eye logo, floor tile, reddish lighting, wide aisles, and drop ceilings of an actual Target store.

Consumers "walk through the aisles" and "shop" via a touch-screen panel. As consumers react to different shopping environments or product packaging, sensors embedded in the floors, walls, and ceiling, along with eye-tracking technology, measure the level of engagement to assess influencing factors on purchase decisions. K-C and its customers test and explore various in-store designs and merchandising concepts without the time and cost of physically constructing alternative layouts, displays, and shelving mock-ups. K-C is also using the new simulation tools to elicit immediate customer feedback on new product initiatives.

The Impact

The Innovation Design Studio helps K-C develop new product initiatives based on immediate customer feedback, decreasing the time-to-market for introducing new products by 50 percent. Retail customers are able to create the most effective display designs that sell more K-C products. For example, Safeway, a leading grocery retailer, teamed with K-C to design a new baby-care aisle based on consumer feedback from the virtual store environment. Test stores incorporating the newly designed baby-care aisle realized increased sales for diapers, training pants, baby wipes, and toiletries. K-C in turn benefited as well. The introduction of a new line of K-C sun-care products, Huggies® Little Swimmers®, was prompted by feedback to make the baby-care aisle a one-stop shop for moms.

This virtual reality technology, however, is delivering even more by providing retailers with ideas on how to better sell other merchandise not offered by K-C, such as clothing. The benefit to K-C is in image-building as a technology innovator. Retailers look to K-C to collaborate in IT-intensive initiatives, such as the use of radio frequency identification (RFID) for logistics. Supermarket chain Kroger sought better ideas for shelving, which led it to team with K-C to explore using RFID to improve the process of moving products from delivery trucks to store shelves.

K-C's plan of commitment to marketing, innovation, and customer development is working. The Innovation Design Studio is not only driving innovation but also helping K-C become a better partner to consumers and to retailers. The customer, shopper, user focus is driving top-line growth and bottom-line results.

Sources: Compiled from Jusko (2007), McGee (2007), Wailgum (2008), and *kimberly-clark.com.*

Questions

1. Explain how K-C is managing its products at the retail level—in stores that it doesn't own.

2. How does collaborating with its customers—the retail stores—improve its financial performance? Contrast this collaborative approach to one in which K-C seeks to maximize its profits at the expense of the retailers.

3. Why do retailers want to do business with K-C?

4. Consider Porter's five-forces model, which includes bargaining power of customers and suppliers. In your opinion, does K-C ignore that competitive model in favor of collaboration?

NONPROFIT CASE

Health Information Exchange at UMass Memorial

For this case, you should view the YouTube video *Connected HIE with UMass Memorial Health Care*, available on the IBM Healthcare channel at *youtube.com/watch?v=tUwm4zZxNy0*. In this video, Richard Cramer, Associate CIO of operations, UMass Memorial Health Care, discusses the need to help patients and health care providers share and manage information appropriately and easily.

UMass Memorial Health Care Hospital System

UMass Memorial Health Care (*umassmemorial.org/*) is an academic medical center and the largest healthcare hospital system in central and western Massachusetts. UMass Memorial is using the *health information exchange (HIE)* to facilitate patient-centered care. That is, it has aligned its IT with its business strategy to be responsive to the need to share information.

One of the critical components of the HIE is the ability to manage and answer questions about a patient's identity and discover what information is shareable about the patients, no matter where it is stored. Medical privacy legislation, such as the Health Information Portability and Accountability Act (HIPAA), mandates the ability to control access while at the same time making information shareable for legitimate healthcare reasons.

All of this is well and good, but if patients, physicians, or anyone else involved with the healthcare system doesn't trust the system or have confidence that the data is protected, it won't be used, and none of the potential benefits of the HIE will be realized.

Security isn't just about protecting an individual's personal information from hackers and fraud, nor is it merely about complying with new regulations. Security is about ensuring the proper privacy of patients' data while improving the quality and accuracy of care.

This really means that not only should the right patient data be available to the right caregiver or care system at the right time, but the system must reliably and continuously build trust among all parties involved.

Obstacles to Information Sharing

With seven hospitals and over 1,100 beds, 13,500 employees, and $1.4 billion in annual revenue, UMass Memorial faced many of the problems plaguing other industries. The inability to share information adversely impacted quality, costs, and efficiency—not to mention patient safety. UMass Memorial turned to master data management (MDM) with a number of objectives, including:

- Providing information on patients wherever they are seen in the system
- Enabling seamless interoperability with community healthcare providers
- Meeting meaningful use guidelines as defined by the *American Reinvestment & Recovery Act* (ARRA, the Stimulus Bill)
- Being able to withstand competitive pressures from other healthcare systems

Information Sharing and Data Governance Improve Quality of Health Care

The HIE architecture had to enable information sharing across numerous legacy systems while also ensuring data privacy and security. With the right architectural approach and a shared vision, UMass Memorial is overcoming data governance challenges and being seen by others as an innovator.

By modernizing its IT infrastructure, UMass Memorial has improved quality and patient safety, increased efficiency, and enhanced patient satisfaction—all essential for success in today's competitive healthcare market. With its new patient-centric information architecture, UMass Memorial delivers a comprehensive view of a patient's entire clinical history to physicians and care providers across the healthcare community, irrespective of the care setting or clinical application being used.

Questions

1. What role does information play in the reputation of UMass Memorial?
2. In the case of healthcare, what are the consequences of not having data that can be trusted—or one version of the truth?
3. How has UMass Memorial aligned its IT and business strategies?
4. Compare the importance of MDM at UMass Memorial and at Kraft Foods Inc., discussed in Section 12.1. Why do disparate or legacy systems create the need for MDM?

ANALYSIS USING SPREADSHEETS

Total Cost of Ownership (TCO): Comparison of Third-Party Offshoring to Company-Owned Offshoring

Major companies, such as Citigroup, had wholly owned offshore service centers. Those types of company-owned offshore centers are called captive models. Captive offshoring models reduce the risk of offshoring. A recent study from the Everest Research Institute estimated the costs of third-party offshoring and captive offshoring. The estimates are shown in the accompanying table.

Create a spreadsheet that totals the average cost of each model for each cost item. For example, average the annual salary based on the range for third parties and also for

captives. Then calculate the TCO of each model. The difference is the cost of risk.

Full-time equivalents (FTE) are used to standardize labor costs since workers may be part time or full time. For example, two part-time workers equal one FTE. The estimates are given in terms of FTE, so the conversion is already done.

Based on your results, how much does the captive offshoring model allow for risk? The answer is the difference between the TCOs of the two models.

	Third-Party Offshoring Mode	Captive Offshoring Model
Office space: Annual rental cost per square foot (assume 10,000 square feet of office space)	$11 to $13	$14 to $16
Base salary costs of workers (assume 1,000 FTEs)	$7,770 to $8,200	$9,500 to $10,300
General management staff for every 1,000 FTEs	12 to 14	16 to 18
General management salary	$55,000 to $65,000	$70,000 to $90,000
Travel and housing costs per FTE	$280 to $320	$900 to $1,060

Resources on the Book's Web Site

More resources and study tools are located on the Student Web site and Wiley PLUS. You'll find additional chapter materials and useful Web links. In addition, self-quizzes that provide individualized feedback are available for each chapter.

Case for Chapter 12 is available at wiley.com/college/turban:

12.1 Second Life Strategy of American Apparel

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