PART 4

INTEGRATION

CHAPTER 12

PLANNING FOR ELECTRONIC COMMERCE

LEARNING OBJECTIVES

In this chapter, you will learn about:

- Planning electronic commerce initiatives
- Strategies for developing electronic commerce Web sites
- Managing electronic commerce implementations

INTRODUCTION

AlliedSignal (now **Honeywell**) is a diversified manufacturing and technology business selling products in the aerospace, automotive, chemicals, fibers, and plastics industries. In 1999, the company had more than 70,000 employees and annual sales exceeding $15 billion. Although some of AlliedSignal's products used new technologies or helped other firms create new technologies, many of the products were commodity items that were manufactured and sold just as they had been for decades. In early 1999, AlliedSignal's CEO, Larry Bossidy, called together the heads of the company's business units for a one-day conference. He invited Michael Dell, chairman and CEO of **Dell Computers**, and John Chambers, CEO of **Cisco Systems**, to speak about their companies' electronic commerce implementation successes.

At the end of the day, Bossidy gave the business unit heads their marching orders. They were to take what they had learned and create a strategy for implementing electronic commerce in their business

units—in two months. Bossidy told the room full of rather stunned managers that, although most of their business units were at or near the top of their industries, the Internet would change everything. He believed that the kinds of electronic commerce strategies that had worked so well for Dell and Cisco in the computer industry could also work in many of AlliedSignal's businesses. He wanted to make sure that AlliedSignal was the first to exploit those strategies and any other strategies that the business managers could devise. In two months, each manager reported back with a strategy that included multiple electronic commerce projects, such as Web sites for selling products, providing customer service, improving corporate infrastructure, managing supply chains, coordinating logistics, holding auctions, and creating virtual communities. These plans were evaluated in the company's annual strategic planning process, and the best ones were chosen for funding and immediate implementation. In a matter of months, one of the largest industrial enterprises in the world had drastically altered its course, setting sail for the uncharted waters of the first wave of electronic commerce. In the years since, AlliedSignal has gone through many changes, including a merger with Honeywell. The initiatives it undertook as a result of this first strategic planning session were important in making the company an attractive merger candidate. Today, as part of Honeywell, the businesses that were AlliedSignal are using Internet technologies as a key part of their supply chain management and purchasing functions.

PLANNING ELECTRONIC COMMERCE INITIATIVES

The ability of companies to plan, design, and implement cohesive electronic commerce strategies will make the difference between success and failure for the majority of them. The tremendous leverage that firms can gain by being the first to do business a new way on the Web has caught the attention of top executives in many industries. The keys to successful implementation of any information technology project are planning and execution. This chapter provides some useful guidelines for those readers who will manage the planning, implementation, and continuing operations of electronic commerce initiatives. A successful business plan for an electronic commerce initiative should include activities that identify the initiative's specific objectives and link those objectives to business strategies (strategies that you learned about in Chapters 3, 4, 5, and 6).

In setting the objectives for an electronic commerce initiative, managers should consider the strategic role of the project, its intended scope, and the resources available for executing it. In this section, you will learn how to identify objectives and link those business objectives to business strategies. In later sections of this chapter, you will learn about Web site development strategies and how to manage the implementation of an electronic commerce initiative.

Identifying Objectives

Businesses undertake electronic commerce initiatives for a wide variety of reasons. Objectives that businesses typically strive to accomplish through electronic commerce include: increasing sales in existing markets, opening new markets, serving existing customers better, identifying new vendors, coordinating more efficiently with existing vendors, or recruiting employees more effectively.

The types of objectives vary with the size of the organization. For example, small companies might want a Web site that encourages site visitors to do business using existing channels rather than through the Web site itself to reduce the cost of the site. A site that offers only product or service information is much less expensive to design, build, and maintain than a site that offers transaction handling, bidding, communications, or other capabilities. Decisions regarding resource allocations for electronic commerce initiatives should consider the expected benefits and costs of meeting the objectives. These decisions should also consider the risks inherent in the electronic commerce initiative and compare them to the risks of inaction—a failure to act could concede a strategic advantage to competitors.

Linking Objectives to Business Strategies

Businesses can use tactics called **downstream strategies** to improve the value that the business provides to its customers. Alternatively, businesses can pursue **upstream strategies** that focus on reducing costs or generating value by working with suppliers or inbound shipping and freight service providers.

In earlier chapters of this book, you learned about many of the things that companies are doing on the Web. The Web is a tremendously attractive sales channel for many firms; however, companies can use electronic commerce to do much more than sell. They can use the Web to complement their business strategies and improve their competitive positions. Electronic commerce opportunities can inspire businesses to undertake activities such as:

- Building brands
- Enhancing existing marketing programs
- Selling products and services
- Selling advertising
- Developing a better understanding of customer needs
- Improving after-sale service and support
- Purchasing products and services
- Managing supply chains
- Operating auctions
- Building virtual communities and Web portals

The success of these activities can be difficult to measure. In the first wave of electronic commerce, many companies engaged in these activities on the Web without setting specific, measurable goals. In the mid-1990s companies that had good ideas could find plenty of investors and start a business activity on the Web. These early activities usually did not face much competition. Successes and failures were measured in broad strokes. A company would either become the eBay of its industry or it would disappear by slipping into bankruptcy or being acquired by another company.

In the second wave of electronic commerce, more companies have begun taking a closer look at the benefits and costs of their electronic commerce projects. Measuring both benefits and costs is becoming more important. A good implementation plan should set specific objectives for benefits to be achieved and costs to be incurred. In many cases, a company will create a pilot Web site to test an online business idea and then release a production version of the site when it works well. Companies must specify clear goals for their pilot tests so that they know when the site is ready to go into full operation.

Measuring Benefits

Some benefits of electronic commerce initiatives are tangible and easy to measure. These include such things as increased sales or reduced costs. Other benefits are intangible and can be much more difficult to measure, such as increased customer satisfaction. When identifying benefit objectives, managers should try to set objectives that are measurable, even when those objectives are for intangible benefits. For example, success in achieving a goal of increased customer satisfaction might be measured by counting the number of first-time customers who return to the site and buy.

Many companies create Web sites to build brands or enhance their existing marketing programs. These companies can set goals in terms of increased brand awareness, as measured by market research surveys and opinion polls. Companies that sell goods or services online can measure sales volume in units or dollars. A complication that occurs in measuring either brand awareness or sales is that the increases can be caused by other things that the company is doing at the same time or by a general improvement in the economy. A good marketing staff or outside consulting firm can help a company sort out the effects of marketing and sales programs. Firms may need these groups to help set and evaluate these kinds of goals for electronic commerce initiatives.

Companies that want to use Web sites to improve customer service or after-sale support might set goals of increased customer satisfaction or reduced costs of providing customer service or support. For example, **Philips Lighting** wanted to use the Web to provide an ordering system for its smaller customers that did not use EDI. The primary goal for this initiative was to reduce the cost of processing smaller orders. Philips had identified that responding to inventory availability and order status inquiries accounted for over half the cost of processing smaller orders. Customers who placed small orders often called or sent faxes asking for this information.

Philips built a pilot Web site and invited a number of its smaller customers to try it. The company found that customer service phone calls from the test group of customers dropped by 80 percent. Based on that measurable increase in efficiency, Philips decided to invest in additional hardware and personnel to staff a version of the Web site that could handle virtually all of its smaller customers. The reduction in the cost of handling small orders justified the additional investment.

Companies can use a variety of similar measurements to assess the benefits of other electronic commerce initiatives. Supply chain managers can measure supply cost reductions, quality improvements, or faster deliveries of ordered goods. Auction sites can set goals for the number of auctions, the number of bidders and sellers, the dollar volume of items sold, the number of items sold, or the number of registered participants. The ability to track such numbers is usually built into auction site software. Virtual communities and Web portals measure the number of visitors and try to measure the quality of their visitors' experiences.

Some sites use online surveys to gather this data; however, most settle for estimates based on the length of time each visitor remains on the site and how often visitors return. A summary of benefits and measurements that companies can make to assess the value of those benefits (these measurements are often called **metrics**) appears in Figure 12-1.

Electronic commerce initiatives	Common measurements of benefits provided
Build brands	Surveys or opinion polls that measure brand awareness
Enhance existing marketing programs	Change in per-unit salesvolume
Improve customer service	Customer satisfaction surveys, quantity of customer complaints
Reduce cost of after-sale support	Quantity and type (telephone, fax, e-mail) of support activities
Improve supply chain operation	Cost, quality, and on-time delivery of materials or services purchased
Hold auctions	Quantity of auctions, bidders, sellers, items sold, registered participants; dollar volume of items sold
Provide portals and virtual communities	Number of visitors, number of return visits per visitor, and duration of average visit

FIGURE 12-1 Measuring the benefits of electronic commerce initiatives

No matter how a company measures the benefits provided by its Web site, it usually tries to convert the raw activity measurements to dollars. Having the benefits measured in dollars lets the company compare benefits to costs and compare the net benefit (benefits minus costs) of a particular initiative to the net benefits provided by other projects. Although each activity provides some value to the company, it is often difficult to measure that value in dollars. Usually, even the best attempts to convert benefits to dollars yield only rough approximations.

Managing Costs

At first glance, the task of identifying and estimating costs may seem much easier than the task of setting benefits objectives. However, many managers have found that information technology project costs can be as difficult to estimate and control as the benefits of those

projects. Since Web development uses hardware and software technologies that change even more rapidly than those used in other information technology projects, managers often find that their experience does not help much when they are making estimates. Most changes in the cost of hardware are downward, but the increasing sophistication of software provides an ever increasing demand for more of the newer, cheaper hardware. This often yields a net increase in overall hardware costs. The more sophisticated software, of course, usually costs more than the amount originally budgeted, too. Even though electronic commerce initiatives tend to be completed within a shorter time frame than many other information technology projects, the rapid changes in Web technology can quickly destroy a manager's best-laid plans.

Total Cost of Ownership

In addition to hardware and software costs, the project budget must include the costs of hiring, training, and paying the personnel who will design the Web site, write or customize the software, create the content, and operate and maintain the site. Many organizations now track costs by activity and calculate a total cost for each activity. These cost numbers, called **total cost of ownership (TCO)**, include a wide variety of costs related to the activity. The TCO of an electronic commerce implementation includes the costs of hardware (server computers, routers, firewalls, and load balancing devices), software (licenses for operating systems, Web server software, database software, and application software), design work outsourced, salaries and benefits for employees involved in the project, and the costs of maintaining the site once it is operational. A good TCO number would, for example, include assumptions about how often the site would need to be redesigned in the future. You can learn more about TCO by visiting the ***Computerworld* Total Cost of Ownership Quickstudy** Web page.

Change Management

Any information system project involves change, and change can be upsetting to people. As employees of an organization become accustomed to their specific duties, many of them draw comfort from their knowledge and develop a sense of security because they know their jobs well and are good at doing them. When changes are introduced into a workplace, employees become concerned about their abilities to cope with the changes and with their ability to continue to do good work. They often become worried that they might lose their jobs. These concerns can lead to increased stress that can be damaging to morale and work performance. Management researchers have developed strategies for **change management**, which is the process of helping employees cope with these changes. Change management techniques include communicating the need for change to employees, including employees in the decision processes leading up to the change, allowing employees to participate in the planning for the change, and other tactics designed to help employees feel that they are a part of the change. This helps employees overcome the feelings of powerlessness that can lead to stress and reduced work performance.

Opportunity Costs

For many companies, one of the largest and most significant costs associated with electronic commerce initiatives is the cost of not undertaking such an initiative. The foregone benefits that a company could have obtained from an electronic commerce

initiative that they chose not to pursue are costs. Managers and accountants use the term **opportunity cost** to describe such lost benefits from an action not taken.

Web Site Costs

Based on data collected in separate recent surveys, International Data Corporation and Gartner, Inc. both estimated that the cost for a large company to build and implement an adequate entry-level electronic commerce site was about $1 million. About 79 percent of this cost was labor related; 10 percent was the cost of software and 11 percent was the cost of hardware. A Gartner study concluded that it would take between $2 million and $5 million to build a site that would compare favorably to leading sites. International Data Corporation noted that 10 of the top 100 electronic commerce sites had spent over $10 million for development and implementation.

Although a small company can put a Web site online for under $4000, the TCO for an electronic commerce implementation with full transaction and payment processing capabilities is difficult to keep under $8000 per year. In fact, recent surveys of smaller companies showed that their expenditures on construction of new electronic commerce Web sites averages $110,000. Industry analysts have pegged the minimum dollar amount needed to open a complete electronic commerce Web site at $100,000.

Gartner estimates that establishing a basic electronic commerce operation on the Web today will cost a company between $100,000 and $1 million, and creating a site that is noticeably ahead of most competitors' sites will cost a minimum of $15 million. Figure 12-2 summarizes industry estimates for the cost of creating a Web business at three different levels: a basic entry level, a level comparable to most existing Web competitors, and a level that makes the Web site stand out as noticeably different from competitors' sites (in Gartner's terms, a "true differentiator").

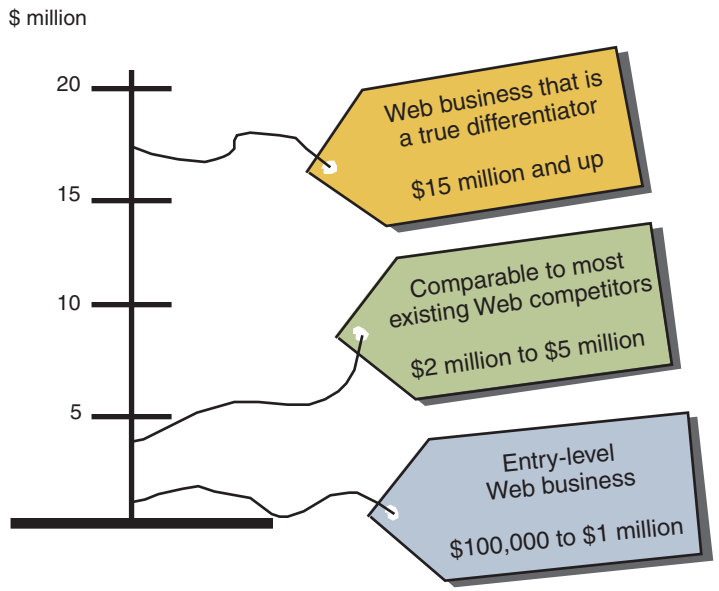
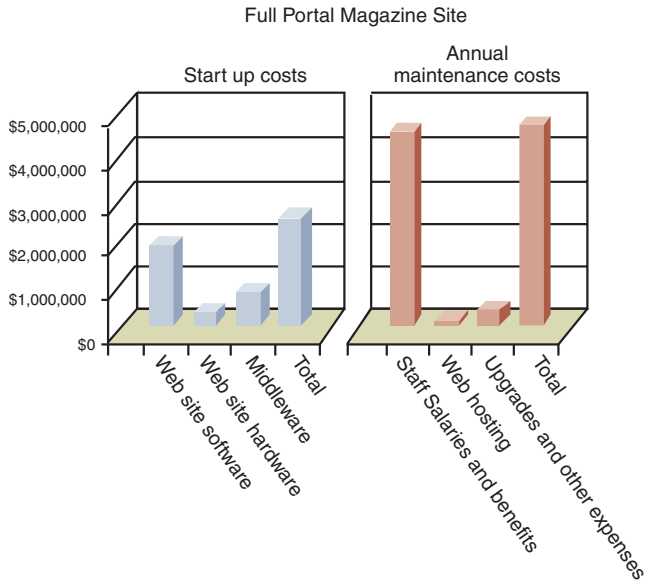
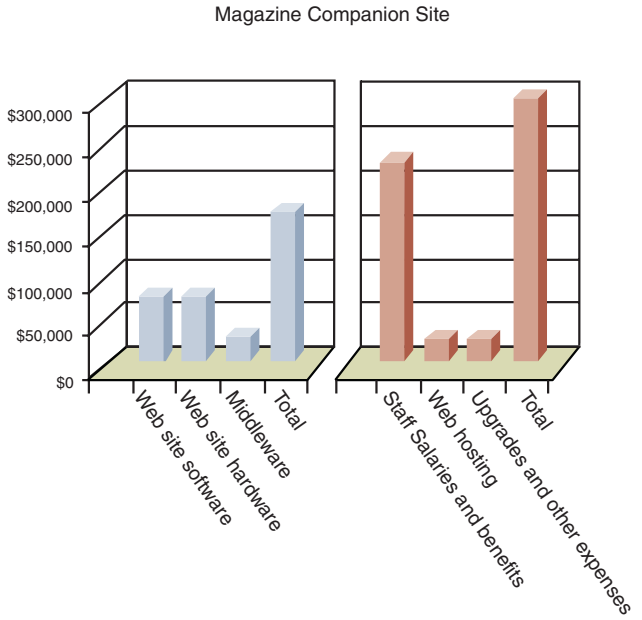


FIGURE 12-2 Starting a Web business: three price tags

Using the initial cost of building an electronic commerce site to make decisions about launching online business activities can be misleading. Web technology continues to evolve at a rapid pace and most businesses want to take advantage of what that technology offers in order to remain competitive. Most experts agree that the annual cost to maintain and improve a site once it is up and running—whether it is a small site or a large site—will be between 50 percent and 200 percent of its initial cost. Thus, ongoing maintenance costs can be a more significant factor in making implementation decisions than the initial cost of building a site.

In a 2001 article, members of the management consulting firm McKinsey & Company reported a study that estimated start-up and ongoing costs for magazine publishers' Web sites (see the Barsh, et al. reference in the For Further Study and Research section at the end of this chapter for a reference to the full report). The McKinsey study estimated costs for two types of magazine sites: a full portal site that served as a destination in itself, and a more limited magazine companion site that complemented a printed magazine. The full portal site cost estimate was $2.4 million to build and $4.3 million per year to maintain, with a staff of 35 people. The companion site cost estimate was $150,000 to build and $270,000 per year to maintain, with a staff of two people. Both of these estimates exclude the cost of developing content for the site and assume that the magazine publisher already has an existing IT infrastructure for a print publishing business serving a subscriber base of 300,000. Figure 12-3 shows the approximate breakdown of these costs. Although these estimates are now a few years old, they still provide a rough idea of the range of costs that can be incurred for different types of online business operations.





Adapted from information presented in Exhibits 1 and 2 and pages 86-89 of Barsh, J., E. Kramer, D. Maue, and N. Zuckerman. 2001. "Magazine's Home Companion," *The McKinsey Quarterly*, 2, June, 83-91.e

FIGURE 12-3 Cost estimates for building and operating magazine publisher Web sites

As an increasing number of traditional businesses create Web versions of their physical stores, the cost to build an online business that is a true differentiator—with a site that stands out and offers something new to customers—continues to increase. Much of the cost for such a Web site is for elements that make a major difference in how well the site works, but are not readily apparent to a site visitor. For example, **Kmart** (now part of Sears) spent more than $140 million to create its online retail Web site. The site's home page, shown in Figure 12-4, is certainly well designed and highly functional, but few visitors would ever guess how much this site cost to build. Much of the site's cost is hidden; the money was used to buy and customize middleware that connects the Web site to Kmart's vast inventory and logistics databases.

The high price tags for creating electronic commerce sites and for the TCO of operating and maintaining them can be discouraging to smaller businesses and organizations. However, as you learned in Chapter 9, smaller organizations can control their costs by using a combination of a third-party hosting service and packaged electronic commerce software. These options provide low initial cost and a controlled annual TCO. However, organizations that use these lower cost options for creating and maintaining online businesses must be careful not to underestimate the costs of related activities, such as creating and maintaining a product catalog or Web site content.

links to brands that have been successful in physical stores

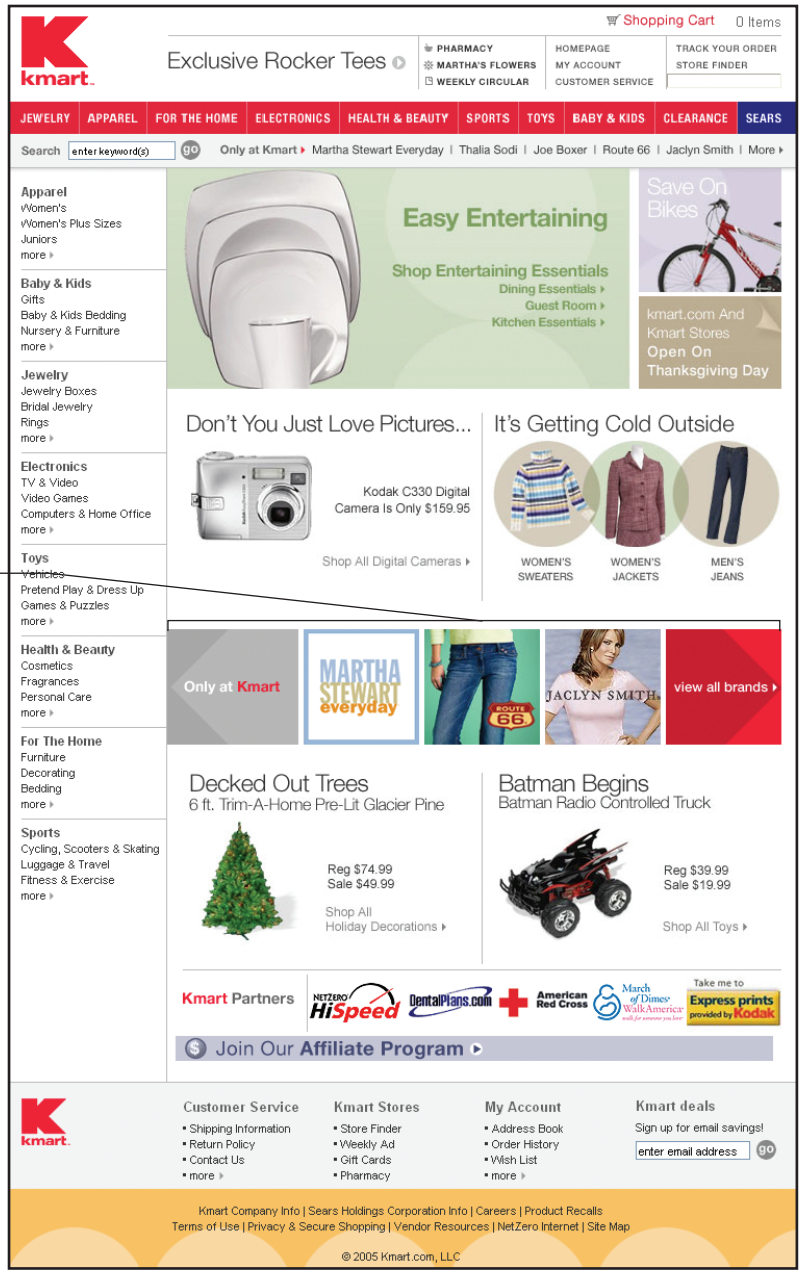


FIGURE 12-4 Kmart's online store home page

Comparing Benefits to Costs

Most companies have procedures that call for an evaluation of any major expenditure of funds. These major investments in equipment, personnel, and other assets are called **capital projects** or **capital investments**. The techniques that companies use to evaluate proposed capital projects range from very simple calculations to complex computer simulation models. However, no matter how complex the technique, it always reduces to a comparison of benefits and costs. If the benefits exceed the costs of a project by a comfortable margin, the company invests in the project.

A key part of creating a business plan for electronic commerce initiatives is the process of identifying potential benefits (including intangibles such as employee satisfaction and company reputation), identifying the costs required to generate those benefits, and evaluating whether the benefits exceed the costs. Companies should evaluate each element of their electronic commerce strategies using this cost/benefit approach. A representation of the cost/benefit approach appears in Figure 12-5.

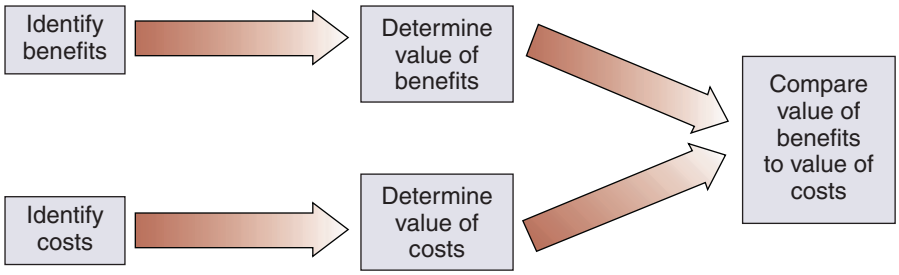


FIGURE 12-5 Cost/benefit evaluation of electronic commerce strategy elements

Return on Investment (ROI)

You might have learned techniques for capital project evaluation, such as the payback method, the net present value method, or the internal rate of return method, in your accounting or finance courses. These evaluation approaches are called **return on investment (ROI)** techniques because they measure the amount of income (return) that will be provided by a specific current expenditure (investment). ROI techniques provide a quantitative expression of a comfortable benefit-to-cost margin for a specific company. They can also mathematically adjust for the reduced value of benefits that the investment will return in future years (benefits received in future years are worth less than those received in the current year).

Although most companies evaluate the anticipated value of electronic commerce initiatives in some way before approving them, many companies see these projects as absolutely necessary investments. Thus, businesses might not subject these initiatives to the same close examination and rigid requirements as other capital projects. These companies fear being left behind as competitors stake their claims in the online marketspace. The value of early positioning in a new market is so great that many companies are willing to invest large amounts of money with few near-term profit prospects.

Newspaper Web sites are a good example of this desire to establish a foothold in the online marketspace. In the first wave of electronic commerce, there were only a few profitable newspaper sites (such as Gannet's ***USA Today*** and *The Wall Street Journal's* **WSJ.com** sites). Most newspaper sites took several years to become profitable. As you learned earlier in this book, an increasing number of newspaper sites are experimenting with ways to generate revenue, such as charging for subscriptions, charging for access to certain content, or charging for access to archived articles. Despite their early losses, most newspaper companies believed that they could not afford to ignore the long-term potential of the Web. These companies calculated their opportunity costs of not being present on the Web (for example, the loss of future profits to be earned from the Web site or the risk of losing market share to competitors) to be greater than the losses they experienced when they started their sites.

In the second wave of electronic commerce, more companies are taking a hard look at any expenditure related to the Web. Many companies have turned to ROI as the measurement tool for evaluating new electronic commerce projects because that is what they used for other IT projects in the past. ROI is a simple-to-understand tool that is easily applied; however, managers should be careful when using it to evaluate online business initiatives. ROI has some built-in biases that can lead managers to make poor decisions.

First, ROI requires that all costs and benefits be stated in dollars. Because it is usually easier to quantify costs than benefits, ROI measurements can be biased in a way that gives undue weight to costs. Second, ROI focuses on benefits that can be predicted. Many electronic commerce initiatives have returned benefits that were not foreseen by their planners. The benefits developed after the initiatives were in place. For example, Cisco Systems created online customer forums to allow customers to discuss product issues with each other. The main benefits from this initiative were to reduce customer service costs and increase customer satisfaction regarding the availability of product information. In addition, the forums turned out to be a great way for Cisco engineers to get feedback from customers on new products that they were developing. This second use was not foreseen by the project's planners and has become the most important and beneficial outcome of the customer forums. An ROI analysis would have missed this benefit completely.

Yet another weakness of ROI is that it tends to emphasize short-run benefits over long-run benefits. The mathematics of ROI calculations do account for both correctly, but short-term benefits are easier to foresee, so they tend to get included in the ROI calculations. Long-term benefits are harder to imagine and harder to quantify, so they tend to be included less often and less accurately in the ROI calculation. This biases ROI calculations to weigh short-term costs and benefits more heavily than long-term costs and benefits. This can lead managers who rely on ROI measures to make incorrect decisions. You can learn more about this topic at the ***CIO*** **E-business Research Center on ROI** and the ***Computerworld*** **ROI Knowledge Center**.

STRATEGIES FOR DEVELOPING ELECTRONIC COMMERCE WEB SITES

When companies began establishing their presences on the Web, the typical Web site was a static brochure that was not updated frequently with new information and seldom had any capabilities for helping the company's customers or vendors transact business. As Web

sites have become the home not only of transaction processing but also of automated business processes of all kinds, these Web sites have become important parts of companies' information systems infrastructures. The evolution of Web site functions—from the static brochures of the early days of electronic commerce, to transaction-processing tools, to today's automated homes for business processes of all kinds—appears in Figure 12-6.

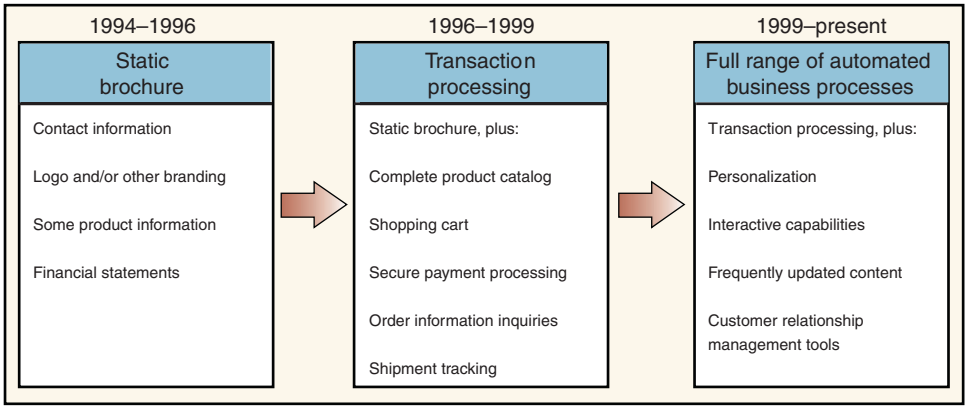


FIGURE 12-6 Increasing complexity of Web site functions

This transformation occurred rapidly—taking only a year or two in most companies. Because the change in the focus of Web sites happened so fast, very few businesses were able to change the way they developed and managed their Web sites to meet the demands of this new focus. Although the purposes and scope of business Web sites have increased greatly, few businesses manage their Web sites as the dynamic business applications they have become. Fortunately, large companies have over the years developed tools that they use to manage their software development projects. As companies begin to see their Web sites as collections of software applications, they are beginning to use these tools to manage the development and maintenance of their Web sites.

Many large and midsize companies have found it extremely difficult to develop new information systems and Web sites that work with such systems to create new markets or reconfigure their supply chains. In the past, companies that have had success in exploring new ways of working with their customers and suppliers by reconfiguring supply chains have had the luxury of time—in many cases, years—to complete those reconfigurations. However, the speed at which the Internet has changed markets and marketing channels throughout entire industry value chains precludes lengthy reconfigurations. Now, companies that want to successfully adapt to the changed business environment of the information age must explore alternatives to traditional systems development methods. These alternatives include the incubator and fast venturing approaches that you will learn about later in this chapter.

Internal Development vs. Outsourcing

Although many companies would like to think that they can avoid electronic commerce site development problems by outsourcing the entire project, savvy leaders realize that they cannot. No matter what kind of electronic commerce initiative a company is contemplating, the initiative's success depends on how well it is integrated into and supports the

activities in which the business is already engaged. Using internal people to lead all projects helps to ensure that the company's specific needs are addressed and that the initiative is congruent with the goals and the culture of the organization. Outside consultants are seldom able to learn enough about an organization's culture to accomplish these objectives. However, few companies are large enough or have sufficient in-house expertise to launch an electronic commerce project without some external help. Even Wal-Mart, with annual sales of more than $150 billion, did not undertake its 2000 Web site relaunch alone. The key to success is finding the right balance between outside and inside support for the project. Hiring another company to provide the outside support for all or part of the project is called **outsourcing**.

The Internal Team

The first step in determining which parts of an electronic commerce project to outsource is to create an internal team that is responsible for the project. This team should include people with enough knowledge about the Internet and its technologies to know what kinds of things are possible. Team members should be creative thinkers who are interested in taking the company beyond its current boundaries, and they should be people who have distinguished themselves in some way by doing something very well for the company. If they are not already recognized by their peers as successful individuals, the project may suffer from lack of credibility.

Some companies make the mistake of appointing as electronic commerce project leader a technical wizard who does not know much about the business and is not well-known throughout the company. Such a choice can greatly increase the likelihood of failure. Business knowledge, creativity, and the respect of the firm's operating function managers are all much more important than technical expertise in establishing successful electronic commerce. Project leaders need a good sense of the company's goals and culture to manage an implementation effectively.

Measuring the achievements of this internal team is very important. The measurements do not have to be monetary. Achievement can be expressed in whatever terms are appropriate to the objectives of the initiative. Customer satisfaction, number of sales leads generated, and reductions in order-processing time are examples of metrics that can provide a sense of the team's level of accomplishment. The measurements should show how the project is affecting the company's ability to provide value to the consumer. Many consultants advise companies to set aside between 5 percent and 10 percent of a project's budget for quantifying the project's value and measuring the achievement of that value.

Increasingly, companies are recognizing the value of the intellectual capital built up in the form of employees' knowledge about the business and its processes. In the past, many companies ignored the value of their human assets because such resources did not appear in the accounting records or financial statements.

Leif Edvinsson has pioneered the use of human capital measures at Skandia Group, a large financial services company in Sweden. In addition to acknowledging employees' competencies, Edvinsson's measures include the value of customer loyalty and business partnerships as part of a company's intellectual capital. This networking approach to evaluating intellectual capital shows promise as a tool for assessing and tracking the value of internal teams and their connections to external consultants. These measurements are now being adapted for use in measuring systems development efforts. You can learn more

about the use of human capital measurements by reading the books by Edvinsson and Max Boisot, another proponent of human capital measurement, which are included in the For Further Study and Research section at the end of this chapter.

The internal team should hold ultimate and complete responsibility for the electronic commerce initiative, from the setting of objectives to the final implementation and operation of the site. The internal team decides which parts of the project to outsource, to whom those parts are outsourced, and what consultants or partners the company needs to hire for the project. Consultants, outsourcing providers, and partners can be extremely important early in the project because they often develop skills and expertise in new technologies before most information systems professionals.

Early Outsourcing

In many electronic commerce projects, the company outsources the initial site design and development to launch the project quickly. The outsourcing team then trains the company's information systems professionals in the new technology before handing the operation of the site over to them. This approach is called **early outsourcing**. Since operating an electronic commerce site can rapidly become a source of competitive advantage for a company, it is best to have the company's own information systems people working closely with the outsourcing team and developing ideas for improvements as early as possible in the life of the project.

Late Outsourcing

In the more traditional approach to information systems outsourcing, the company's information systems professionals do the initial design and development work, implement the system, and operate the system until it becomes a stable part of the business operation. Once the company has gained all the competitive advantage provided by the system, the maintenance of the electronic commerce system can be outsourced so that the company's information systems professionals can turn their attention and talents to developing new technologies that will provide further competitive advantage. This approach is called **late outsourcing**. Although for years late outsourcing has been the standard for allocating scarce information systems talent to projects, electronic commerce initiatives lend themselves more to the early outsourcing approach.

Partial Outsourcing

In both the early outsourcing and late outsourcing approaches, a single group is responsible for the entire design, development, and operation of a project—either inside or outside the company. This typical outsourcing pattern works well for many information systems projects. However, electronic commerce initiatives can benefit from a partial outsourcing approach, too. In **partial outsourcing**, which is also called **component outsourcing**, the company identifies specific portions of the project that can be completely designed, developed, implemented, and operated by another firm that specializes in a particular function.

Many smaller Web sites outsource their e-mail handling and response functions. Customers expect rapid and accurate responses to any e-mail inquiry they make of a Web site with which they are doing business. Many companies send the customer an automatic order

confirmation by e-mail as soon as the order or credit card payment is accepted. A number of companies provide e-mail autoresponse functions on an outsourcing basis.

Another common example of partial outsourcing is an electronic payment system. Many vendors are willing to provide complete customer payment processing. These vendors provide a site that takes over when customers are ready to pay and returns the customers to the original site after processing the payment transaction.

One of the most common elements of electronic commerce initiatives that companies outsource using this approach is the Web hosting activity that you learned about in Chapter 9. Providers of Internet connectivity, applications, and business services (including ISPs, CSPs, MSPs, and ASPs) offer Web hosting services to companies that want to operate electronic commerce sites, but that do not want to invest in the hardware and staff needed to create their own Web servers. These service providers are usually willing to accommodate requests for a variety of service levels. Small businesses can rent space on an existing server at the ISP's location. Larger companies can purchase the server hardware and have the service provider install and maintain it at the service provider's location. The service provider has the continuous staffing and expertise needed to keep an electronic commerce site up and running 24 hours a day, seven days a week (this kind of service is often called **24/7 operation**). Most service providers offer a wide range of services, including personal Web access for individuals. Some service providers specialize in services to business. These larger service providers cater to companies that want to operate electronic commerce sites. They typically offer wider bandwidth connections to the Internet than smaller service providers and also offer more reliable continuous service.

A number of service providers offer services beyond basic Internet connectivity to companies that want to do business on the Web. Many of these services were described earlier as candidates for partial outsourcing strategies and include automated e-mail response, transaction processing, payment processing, security, customer service and support, order fulfillment, and product distribution.

LEARNING FROM FAILURES

Nordisk Aviation

Nordisk Aviation is a subsidiary of the Norwegian Norsk Hydro Group. It designs, manufactures, and repairs air cargo containers for both freight and passenger baggage for major airlines throughout the world and for freight carriers such as FedEx and UPS. It also designs and sells handling systems and pallets that work with the containers. The company has annual sales of more than $100 million and employs more than 150 people at its locations around the world.

Nordisk was a strong believer in using the outsourcing approach for its IT projects—its IT Department included only two people. These two IT staff members worked as the overseers of every IT design and implementation project for the company. They also managed the ongoing IT services provided to Nordisk by other companies.

continued

In late 2000, Manfred Gollent, the president of Nordisk, decided it was time to upgrade the company's Web site—which had been operating as an information site for several years—to include portal features that would allow Nordisk customers to check order status and learn about current developments in container and container-handling systems design. The logical approach for Nordisk was to find a company to which it could outsource the project.

The two members of Nordisk's IT staff went to work finding suitable Web developers. The previous Web developer had disappeared; they were unable to find any trace of the person who had created the existing Web site. The developer had created the Web site so that it used a number of programs to deliver dynamic pages. Unfortunately, the developer had given Nordisk only the executable code and not the actual programs. He also did not provide Nordisk with any documentation of the programs.

When the Web site was initially created, it was not an important strategic project for Nordisk. The IT staff members, who were busy with other important projects, did not ensure that the application code and documentation were received. Nordisk had to hire a company to rebuild the site completely to obtain the additional portal functions it wanted to add to the site. The lesson from the Nordisk case is that even when a company is outsourcing virtually all of its Web development, it must have procedures in place to ensure that the project is internally managed and documented.

Selecting a Hosting Service

The internal team should be responsible for selecting the ISP that will provide the site's hosting service. For smaller electronic commerce projects, teams can consult an ISP directory such as **The List**, which you learned about in Chapter 9. These sites provide a search engine that helps visitors choose an ISP, Web hosting service, or ASP that meets their needs from the sites' thousands of listings.

For larger Web site implementations, the team should obtain the advice of consultants or other firms that rate service providers (ISPs, ASPs, and CSPs), such as **HostCompare.com** and **Keynote Systems**. The most important factors to evaluate when selecting a hosting service include:

- Functionality
- Reliability
- Bandwidth and server scalability
- Security
- Backup and disaster recovery
- Cost

Because the company's information on customers, products, pricing, and other data will be placed in the hands of the service provider, the vendor's security policies and practices are very important, as you learned in Chapter 10. No matter what security guarantees the service provider offers, the company should monitor the security of the electronic commerce operation through its own personnel or by hiring a security consulting firm.

New Methods for Implementing Partial Outsourcing

In the past five years, new ways of implementing the partial outsourcing strategy have evolved specifically for Web businesses. The next two sections describe two of the more popular of these methods; incubators and fast venturing.

Incubators

An **incubator** is a company that offers start-up companies a physical location with offices, accounting and legal assistance, computers, and Internet connections at a very low monthly cost. Sometimes, the incubator offers seed money, management advice, and marketing assistance as well. In exchange, the incubator receives an ownership interest in the company, typically between 10 percent and 50 percent.

When the company grows to the point that it can obtain venture capital financing or launch a public offering of its stock, the incubator sells all or part of its interest and reinvests the money in a new incubator candidate. One of the first Internet incubators was **Idealab**, which helped companies such as **CarsDirect.com**, **Overture**, and **Tickets.com** get their starts. Today, Idealab focuses on its own internally generated ideas rather than soliciting ideas from outside entrepeneuers, but it still operates as an incubator.

Some companies have created internal incubators. A number of companies used internal incubators in the past to develop technologies that the companies planned to use in their main business operations. Most of these programs, such as the Kodak internal venturing program of the 1980s, were unsuccessful and, ultimately, were shut down. Employees in internal incubators found it difficult to maintain an entrepreneurial spirit when they knew that the technology they were developing would ultimately be taken away and controlled by the parent company.

More recently, companies such as Matsushita Electric's U.S. Panasonic division have started internal incubators to help launch new companies that will grow to become important strategic partners. The companies launched in the incubator will retain their individual management teams and the assets they develop. The prospects for these strategic partner incubators appear to be much brighter than those of the old-style technology development incubators.

Fast Venturing

Often, large companies struggle to emulate the entrepreneurial spirit of smaller companies as they launch their Internet business initiatives. Many of these companies are trying to expand the internal incubator model and create an effective support system for new business and technology ideas, such as electronic commerce initiatives. One approach that is becoming popular is called fast venturing.

In **fast venturing**, an existing company that wants to launch an electronic commerce initiative joins external equity partners and operational partners that can offer the experience and skills needed to develop and scale up the project very rapidly. Equity partners are usually banks or venture capitalists that sometimes offer money, but are more likely to offer experience gained from guiding other start-ups that they have funded. Operational partners are firms, such as systems integrators, consultants, and Web portals, that have experience in moving projects along and scaling up prototypes. The roles of each participant in fast venturing are described in Figure 12-7.

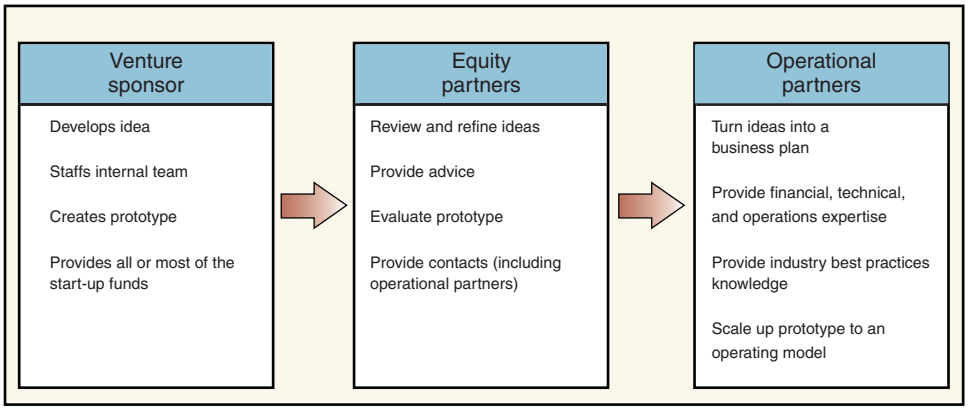


FIGURE 12-7 Elements of fast venturing

The venture sponsor is the existing company that wants to launch the electronic commerce initiative. The equity partners are entities that have provided start-up money to new ventures in the past and have developed knowledge about operating new ventures. The equity partners provide advice based on this knowledge to the venture sponsor, which typically has little experience in developing new ventures. The operational partners are people and companies that previously have built Web business sites. Thus, they can provide expertise in the technologies and business practices needed to create a successful operating electronic commerce site.

MANAGING ELECTRONIC COMMERCE IMPLEMENTATIONS

The best way to manage any complex electronic commerce implementation is to use formal management techniques. Project management, project portfolio management, specific staffing, and postimplementation audits are methods businesses use to efficiently administer their electronic commerce projects.

Project Management

Project management is a collection of formal techniques for planning and controlling the activities undertaken to achieve a specific goal. Project management was developed by the U.S. military and the defense contractors that worked with the military in the 1950s and the 1960s to develop weapons and other large systems. Not only was defense spending increasing in those years, but individual projects were becoming so large that it became impossible for managers to maintain control over them without some kind of assistance.

The project plan includes criteria for cost, schedule, and performance—it helps project managers make intelligent trade-off decisions regarding these three criteria. For example, if it becomes necessary for a project to be completed early, the project manager can compress the schedule by either increasing the project's cost or decreasing its performance.

Today, project managers use specific application software called **project management software** to help them manage projects. Project management software products, such as

Microsoft Project and **Primavera Project Planner**, give managers an array of built-in tools for managing resources and schedules. The software can generate charts and tables that show, for example, which parts of the project are critical to its timely completion, which parts can be rescheduled or delayed without changing the project completion date, and where additional resources might be most effective in speeding up the project. Figure 12-8 shows an activity tracking screen from Primavera Project Planner.

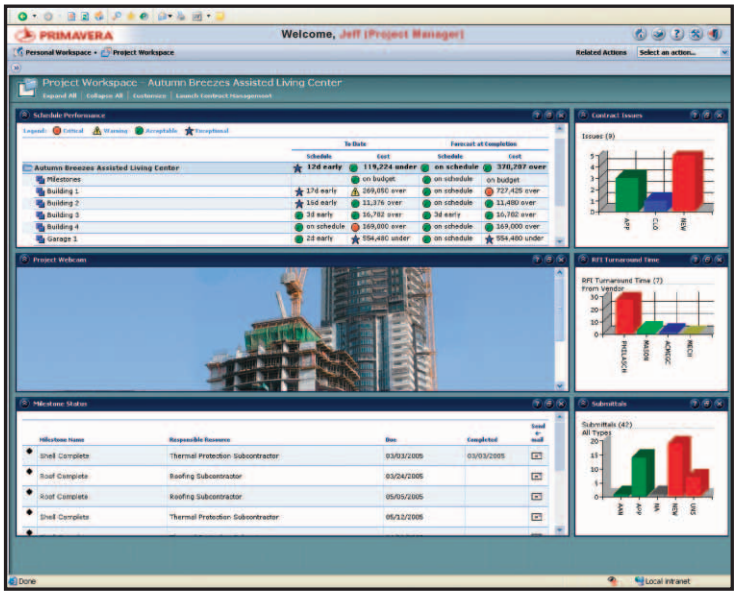


FIGURE 12-8 Tracking activities in Primavera Project Planner

In addition to managing the people and tasks of the internal team, project management software can help the team manage the tasks assigned to consultants, technology partners, and outsourced service providers. By examining the costs and completion times of tasks as they are completed, project managers can learn how the project is progressing and continually revise the estimated costs and completion times of future tasks.

Information systems development projects have a well-deserved reputation for running out of control and ultimately failing. They are much more likely to fail than other types of projects, such as building construction projects. The main causes for information systems project failures are rapidly changing technologies, long development times, and changing customer expectations. Because of this vulnerability, many teams rely on project management software to help them achieve project goals.

Although electronic commerce certainly uses rapidly changing technologies, the development times for most electronic commerce projects are relatively short—often they are accomplished in under six months. This gives both the technologies and the expectations of users less time to change. Thus, electronic commerce initiatives are, in general, more successful than other types of information systems implementations.

You can learn more about project management by reading the references listed in the For Further Study and Research section at the end of this chapter, or by clicking the

Online Companion link for the **Project Management Institute**, a not-for-profit organization devoted to the promotion of professional project management practices.

Project Portfolio Management

Larger organizations often have many IT implementation projects going on simultaneously—a number of which could be electronic commerce implementations or updates. Some chief information officers (CIOs) of larger companies now use a portfolio approach to managing these multiple projects. **Project portfolio management** is a technique in which each project is monitored as if it were an investment in a financial portfolio. The CIO records the projects in a list (usually using spreadsheet or database management software) and updates the list regularly with current information about each project's status.

Project management software performs a function similar to this for the tasks within a project, but most project management software packages are designed to handle individual projects and do not do a very good job of consolidating activities across multiple projects. Also, the information used in project portfolio management differs somewhat from the information used to manage specific projects. Project management software tracks the details of how each project is accomplishing its specific goals. In project portfolio management, the CIO assigns a ranking for each project based on its importance to the strategic goals of the business and its level of risk (probability of failure).

To develop these rankings, the CIO can use any of the methods that financial managers use to evaluate the risk of making investments in business assets. Indeed, using the tools of financial management helps the CIO to explain electronic commerce projects as investments in assets—using the language that financial managers (and often the CEO) understand. You can learn more about project portfolio management by reading the Berinato article cited in the For Further Study and Research section at the end of this chapter.

Staffing for Electronic Commerce

Regardless of whether the internal team decides to outsource parts of the design and implementation activity, it must determine the staffing needs of the electronic commerce initiative. The general areas of staffing that are most important to the success of an electronic commerce initiative include:

- Business managers
- Project managers
- Account managers
- Applications specialists
- Web programmers
- Web graphics designers
- Content creators
- Content managers or editors
- Customer service reps
- Systems administrators
- Network operators
- Database administrators

The business management function should include internal staff. The **business manager** should be a member of the internal team that sets the objectives for the project. The business manager is responsible for implementing the elements of the business plan and reaching the objectives set by the internal team. If revisions to the plan are necessary as the project proceeds, the business manager develops specific proposals for plan modifications and additional funding and presents them to the internal team and top management for approval.

The business manager should have experience and knowledge related to the business activity that is being implemented on the electronic commerce site. For example, if business managers are assigned to a retail consumer site, they should have experience managing a retail sales operation.

In addition to including the business manager, the business management function in large electronic commerce initiatives may include other individuals who carry out specialized functions, such as project management or account management, that the business manager does not have time to handle personally. A **project manager** is a person with specific training or skills in tracking costs and the accomplishment of specific objectives in a project. Many project managers are certified by organizations such as the Project Management Institute (which you learned about earlier in this chapter) and have skills in the use of project management software.

An **account manager** keeps track of multiple Web sites in use by a project or keeps track of the projects that will combine to create a larger Web site. Most larger projects will have a test version, a demonstration version, and a production version of the Web site located on different servers. The test version is the "under construction" version of a Web site. Because most sites are frequently updated with new features and content, the test version gives the company a place to make sure that each new feature works before exposing it to customers. The demonstration version has features that have passed testing and must be demonstrated to an internal audience (for example, the Marketing Department) for approval. The production version is the full operating version of the site that is available to customers and other visitors. The account manager supervises the location of specific Web pages and related software installations as they are moved from test to demonstration to production. In smaller projects, the business manager handles the project and account management functions.

As more vendors provide packaged software solutions for electronic commerce, such as those you learned about in Chapter 9, companies need information systems staff that can install and maintain the software. Most large businesses have **applications specialists** who maintain accounting, human resources, and logistics software. Similarly, electronic commerce sites that buy software to handle catalogs, payment processing, and other features need applications specialists to maintain the software. Although the installation of these software packages can be outsourced, most companies prefer to train internal staff to serve in this function when the site becomes operational.

Web sites have evolved from static HTML to more complex designs built with dynamic Web page generation technologies and XML data integration. As Web sites have become more complicated, the need for **Web programmers**, who design and write the underlying code for dynamic database-driven Web pages, has increased. Good Web programmers understand several different dynamic Web page generation technologies and are highly

skilled in at least one of them. Many Web programmers also have database manipulation and query skills, such as the ability to write SQL or PHP code.

Because the Web is a visual medium, the role of graphic elements on individual Web pages is important. A company must either retain the services of a graphics design firm, a Web design firm that includes graphics designers, or must hire employees with graphics design skills. A **Web graphics designer** is a person trained in art, layout, and composition and who also understands how Web pages are constructed. The Web graphics designer, or design team for larger sites, must ensure that the Web pages on the site are visually appealing, easy to use, and make consistent use of graphics elements from page to page.

Most larger sites and many smaller sites include content created specifically for the Web site. Other sites adapt content from existing sources within the company for use on the Web site, or purchase content to use on the site. These activities require that the company hire **content creators** to write original content and **content managers** or **content editors** to purchase existing material and adapt it for use on the site.

The Web offers businesses a unique opportunity to reach out to their customers. Thus, business-to-consumer and business-to-business sites that want to capitalize on that opportunity must include a customer relationship management function. **Customer service** personnel help design and implement customer relationship management activities in the electronic commerce operation. They can, for example, issue and administer passwords, design customer interface features, handle customer e-mail and telephone requests for service or follow-up action, and conduct telemarketing for the site. Companies strive to provide the best possible service to satisfy the demands of their customers. The increasing power of customers to organize and express their expectations on the Web is a natural extension of the increase in consumerism that has occurred over the past two decades.

Some companies outsource parts of their customer relationship management operation to independent call centers. A **call center** is a company that handles incoming customer telephone calls and e-mails for other companies. Using a call center often makes sense for smaller companies that do not have the volume of customer inquiries to justify creating an internal call center operation. Some call centers work with a variety of businesses; others focus on one specialty area. For example, a specialized call center might contract with software manufacturers to provide installation help for their software products. Call center employees who are skilled in helping customers install one software package are often able to learn how to support other software packages very quickly.

A systems administrator who understands the server hardware and operating system is an essential part of a successful electronic commerce implementation. The **systems administrator** is responsible for the system's reliable and secure operation. If the site operation is outsourced to a service provider, the service provider supplies this function. If the site is hosted by the company, it needs to devote at least one person to this job. In addition, the internal system administrator needs sufficient staff to maintain full 24/7 operation and site security. These **network operations** staff functions include load estimation and load monitoring, resolving network problems as they arise, designing and implementing fault-resistant technologies, and managing any network operations that are outsourced to service providers or telephone companies.

Most electronic commerce sites require some kind of **database administration** function to support activities such as transaction processing, order entry, inquiry management, or shipment logistics. These activities require either an existing database into

which the site is being integrated, or a separate database established for the electronic commerce initiative. It is important to have a database administrator who can effectively manage the design and implementation of this function.

Postimplementation Audits

After an electronic commerce site is successfully launched, most of the project's resources are devoted to maintaining and improving the site's operations. However, an increasing number of businesses are realizing the value of a postimplementation audit. A **postimplementation audit** (also called a **postaudit review**) is a formal review of a project after it is up and running.

The postimplementation audit gives managers a chance to examine the objectives, performance specifications, cost estimates, and scheduled delivery dates that were established for the project in its planning stage and compare them to what actually happened. In the past, most project reviews focused on identifying individuals to blame for cost overruns or missed delivery dates. Because many external forces in technology projects can overwhelm the best efforts of managers, this blame identification approach was generally unproductive, as well as uncomfortable, for the managers on the project.

A postimplementation audit allows the internal team, the business manager, and the project manager to raise questions about the project's objectives and provide their "in-the-trenches" feedback on strategies that were set in the project's initial design. By agreeing beforehand not to lay blame, the company obtains valuable information that it can use in planning future projects and gives the participants a meaningful learning experience.

The audit should result in a comprehensive report that analyzes the project's overall performance, how well the project was administered, whether the organizational structure was appropriate for the project, and the specific performance of the project team(s). Each section of the report should compare actual results to the project's objectives. Many companies modify their project management organization structure after completing each project based on the contents of postaudit review reports. Many companies also include a confidential section in the report that evaluates each team member's performance on the project. Summaries of member performance can help managers decide which employees should be included in future team projects.

Summary

This chapter provided an overview of key elements that are typically included in business plans for electronic commerce implementations. The first step is setting objectives. Specific objectives derive from the initiative's overall goals and include planned benefits and planned costs. The benefit and cost objectives should be stated in measurable terms, such as dollars or quantities. Before undertaking an electronic commerce project, most companies will evaluate its estimated costs and benefits.

Businesses use a number of evaluation techniques; however, most businesses calculate projects' return on investment to gauge their value. In the early days of electronic commerce, many companies undertook electronic commerce projects without evaluating their costs and benefits in detail because they feared being left out of the Internet boom. In the second wave of electronic commerce, fewer companies are undertaking electronic commerce initiatives without subjecting them to the same quantitative analysis they use for other IT projects. However, the benefits of electronic commerce projects can be harder to define and quantify than the benefits expected from most other IT projects, so managers should be careful when using these quantitative measures to evaluate electronic commerce projects.

Companies must decide how much, if any, of an electronic commerce project to outsource. The first step in determining an outsourcing strategy is to form an internal team that includes knowledgeable individuals from within the company. The internal team develops the specific project objectives and is responsible for meeting those objectives. The internal team designs an outsourcing strategy, selects a hosting service (or decides to have the company host its own Web server), and supervises the staffing of the project.

Project management is a formal way to plan and control specific tasks and resources used in a project. It provides project managers with a tool they can use to make informed trade-offs among the project elements of schedule, cost, and performance. Large organizations are beginning to use project portfolio management techniques to track and make trade-offs among multiple ongoing projects. Electronic commerce initiatives are usually completed within a short time frame and thus are less likely to run out of control than other information systems development projects.

The company must staff the electronic commerce initiative regardless of whether portions of the project are outsourced. Critical staffing areas include business management, application specialists, customer service staff, systems administration, network operations staff, and database administration. A good way for all participants to learn from project experiences is to conduct a postimplementation audit that compares project objectives to the actual results.

Key Terms

24/7 operation
Account manager
Applications specialist
Business manager
Call center
Capital investment
Capital project
Change management
Component outsourcing
Content creator
Content editor
Content manager

Customer service
Database administration
Downstream strategies
Early outsourcing
Fast venturing
Incubator
Late outsourcing
Metrics
Network operations
Opportunity cost
Outsourcing
Partial outsourcing
Postimplementation audit (postaudit review)
Project management
Project management software
Project manager
Project portfolio management
Return on investment (ROI)
Systems administrator
Total cost of ownership (TCO)
Upstream strategies
Web graphics designer
Web programmer

Review Questions

RQ1. Name three benefit objectives that a business might decide to measure in an electronic commerce business plan.

RQ2. In two paragraphs, explain why some firms approved online business initiatives without taking a close look at the return on investment numbers of those projects during the first wave of electronic commerce.

RQ3. In one paragraph, explain why late outsourcing is seldom used in electronic commerce projects.

RQ4. In about 200 words, name and briefly describe four factors that a company should evaluate when selecting an ISP, ASP, or CSP to provide Web hosting services.

RQ5. In about 250 words, explain why the head of the business management function of an electronic commerce initiative should be an employee of the company implementing the project even if most of the work is outsourced.

Exercises

E1. The Grover Cams Company manufactures cams and other components for diesel engines. As Web site manager for Grover, you created an attractive Web site that includes information about the company's history, its financial statements, and digitized depictions of the company's main products. You have been talking with your manager, chief information officer Tom Buckles, for several months about adding electronic commerce features to the Web site that will allow your smaller customers to order directly from Grover instead of through their local distributors. Tom finally created a capital budget proposal for the Web site expansion and submitted it to Grover's board of directors. The board always calculates and evaluates a capital project's return on investment before approving it. The board told Tom that the project did not provide a high enough financial return to approve it. However, the board realized that electronic commerce initiatives could be important to Grover's future strategic position in the business; thus, it is willing to consider nonmonetary factors as a basis for approving the project. Tom would like to take the project back to the

board next month, but he does not have a good sense of what nonmonetary factors might persuade the board to approve the project. He wants you to write a memo that outlines some of those factors and explains why they are important to Grover's future strategic position. In addition to considering the discussion in this chapter, you may want to use the Online Companion and draw on resources at *Business Week*'s **e.biz**, *CIO*'s **E-Business Research Center**, Internet.com's **Electronic Commerce Guide**, or **ZDNet's eBusiness Update** as you prepare your memo.

E2. You are working for International Delicacies, which has become successful selling unusual food and other gift items through its mail order catalog. Most customers call the toll-free telephone number on the catalog, but some still send in orders by mail. Your manager, Jagdish Singh, wants to add an online store that will complement the company's existing mail order and telephone sales channels. He wants you to lead the internal team for the project. Write a memo to Jagdish of about 500 words in which you outline the steps you will take to staff the internal team, make decisions about internal development vs. outsourcing, and choose a hosting service. Be sure to include your thoughts on whether an incubator or a fast venturing strategy might make sense in this case.

E3. As manager of networks and computing operations for Fashion Land, a retailer of women's clothing and accessories, you have seen the business grow from seven stores in Kansas City to over 100 stores located throughout the Midwest. Fashion Land's marketing research team has found that many members of its target customer group—females between the ages of 15 and 35—are becoming regular users of the Web. The researchers have asked you for help in developing an electronic commerce initiative for Fashion Land. Alone, or in a team assigned by your instructor, do the following:

a. Outline a business strategy for Fashion Land's electronic commerce initiative. The outline should include a list of specific objectives and the costs and benefits of accomplishing each objective. The outline should also include recommendations regarding what to outsource, what Web hosting services are needed, and what staff should be hired.

b. Prepare a memo that lists and briefly describes the major hardware, software, security, payment processing, advertising, international, legal, and ethics issues that might arise in the development of this electronic commerce site.

Cases

C1. Idealab

Bill Gross started his first company (a solar-powered device manufacturer) when he was 15 years old. After graduating from Caltech, he started a software company, GNP, that he later sold to Lotus. Gross had made a considerable amount of money and was interested in exploring better ways of getting ideas converted into profitable businesses. He became fascinated by the idea of business incubators about the same time he became fascinated with the business potential of the Internet. In 1996, he pooled some of his wealth with contributions from several partners to create Idealab.

Idealab was one of the first companies to provide an incubator that was open to individual entrepreneurs. Idealab provided venture capital and gave entrepreneurs a place to work and develop their business ideas alongside other entrepreneurs. In the first wave of electronic

commerce, Idealab was very successful. Although many of its incubated companies eventually failed, enough of them succeeded that Idealab was able to fund several generations of new businesses through its operations. In its first year, it supported 10 new businesses, including the very successful CitySearch Web site. In its second year, Idealab helped create another 10 businesses, including the successful sites Shopping.com, Tickets.com, and WeddingChannel.com. In subsequent years, Idealab incubated companies such as NetZero, Cooking.com, CarsDirect.com, Picasa, and GoTo.com (which later became Overture and was eventually acquired by Yahoo!). Not all of Idealab's companies were successful, however. One of the most dramatic failures of the first wave of electronic commerce, eToys, had been an Idealab company. Idealab had more winners than losers, though; by early 2000, the company had more than $4 billion in assets.

In 2000, Gross devised a new strategy that would go beyond Idealab's original purpose as an incubator. He developed a plan to compete with Amazon.com using existing Idealab companies. His plan was to combine about 10 of the companies in the incubator (including specialty retailer Eve.com and online jewelry store Ice.com) and promote them (using large amounts of money that would be raised from outside investors) as a single marketplace under the name Big.com. However, just as Gross began raising money to support the launch of this new marketplace, the pool of dot-com investment funds dried up. The new combined company quickly failed. Eve.com and Big.com no longer exist. The founders of Ice.com bought their company back from Idealab and moved it to their home in Montreal (where the company is now operating profitably). Within a few months, the failure of Big.com and the lower stock market valuations of Idealab's holdings reduced the value of the company's assets from $4 billion to $200 million.

Idealab's investors were upset by Gross' change in strategy and by the drop in their company's value. In January 2002, 44 of them sued Gross and other Idealab managers for $750 million. The suit alleged mismanagement of the funds invested and further alleged that Gross had used Idealab funds to pay personal expenses. Eighteen months later, a court held that the allegations were without merit and the suit was dismissed. Gross was once again able to devote his time to operating Idealab as an incubator.

Gross laid off more than two-thirds of Idealab's employees and stopped accepting outside venture capital. Idealab no longer provides incubator space for entrepreneurs who have developed ideas on their own. The company only funds ideas generated by the Idealab management team. Idealab's asset value has rebounded somewhat and is now between $600 million and $900 million.

Required:

1. In its first three years of operation, Idealab recruited entrepreneurs to its incubator who had business experience, but who did not know much about the Internet. In about 300 words, explain what benefits Idealab was able to provide to these entrepreneurs and why the incubator environment was beneficial to them.
2. In about 200 words, analyze Idealab's 2000 decision to change its focus from being an incubator to merging its companies in an attempt to compete with Amazon.com. In your analysis, discuss whether the decision was a strategic error or just a case of bad timing.
3. In about 200 words, explain why you think Gross decided to devote Idealab's resources to the development of internally generated ideas in 2003. Be sure to consider whether this change will help Idealab succeed in the second wave of electronic commerce.

Note: Your instructor might assign you to a group to complete this case, and might ask you to prepare a formal presentation of your results to your class.

C2. Davis Humanics

Davis Humanics (DH) is a company founded in 1982 that provides human resources services to about 7000 companies with a total of nearly 100,000 employees. These services include payroll processing, tax filing, health insurance and claims management, and retirement plan management. DH has annual sales of $2 billion and about 1000 employees. DH has grown rapidly and has clients of all sizes, ranging from smaller companies with fewer than 50 employees to Fortune 500 companies.

As DH grows, it is having trouble maintaining a consistent quality of service. Account managers each must handle more clients, and it is becoming difficult for those account managers to maintain a high degree of personal contact with the human resources executives who control DH's contracts. In the past, account managers worked with a small set of client contact people, but now account managers must work with more people, many of whom they have never met. In addition to account managers, client personnel have regular contacts with DH operations staff (who handle input tasks), DH systems staff (who help customize the interfaces between DH systems and client systems), and DH professional staff (lawyers, actuaries, and human resources professionals who consult with DH clients and their legal counsel regarding the operation of their retirement and benefits plans).

Because DH's clients are so different in size and how they operate, DH has to be flexible in handling input data. For example, DH's payroll-processing service allows clients many different ways to send in time card data. The largest clients arrange for customized computer-to-computer transfer of information. Some large clients use EDI transfers. Most medium and smaller-sized clients e-mail or fax the time card information, but a significant number of them mail paper lists that DH must scan into its systems. The health insurance claims-handling operation is even more troublesome. In addition to having clients send information in various formats, the insurance companies demand that information be submitted in specific formats, each of which is different.

The complexity of DH's operations is growing as rapidly as the company adds new clients. Sandi Higbee, DH's director of Operations, asks for your help in outlining a Web-based customer relationship management (CRM) system that will help manage the account managers' ever-increasing levels of customer contact. Sandi reviewed the products offered by several leading CRM vendors and believes that one might work as a base product, but no matter which product is chosen, she believes that substantial customization will be necessary because DH's operations are so complex and different from most companies that sell products or simple services to customers. A good CRM system for DH would need to monitor all types of customer interactions with DH account managers, operations staff, systems staff, and professional staff. In addition, the system's Web interface should allow DH clients to access parts of the CRM system so they can track DH's follow-up on their work requests and pending inquiries.

DH evaluates all capital projects, including IT projects, using ROI. Sandi is worried about this because she believes that many of the benefits of this CRM project will be hard to quantify. On the other hand, the costs of the CRM project (software and hardware purchase and cost of consultants who will customize the CRM software to meet DH's specific needs) will be very easy to quantify and will be large. Sandi expects the vendor-consultant teams to submit bids of between $1 million and $2 million for this project.

Required:

1. Prepare an outline of the benefits that DH might expect to obtain from this CRM project. Use categories to organize your list of benefits; for example, you might identify benefits that will accrue to DH's account managers, operations staff, IT staff, and professional staff. Because DH's clients will also benefit, you might be able to identify benefits that will accrue to DH's Marketing and Sales departments or to DH's New Product Development department. Be sure to include any long-term benefits that you think might occur after the CRM system has been in place for several years.
2. Estimate the dollar value of each benefit you identified in the first part of your answer.
3. Prepare a one-page memorandum to the DH board of directors in which you argue against using ROI as the primary method for evaluating this project. Keep in mind that these directors have little time to review your arguments and are very much inclined to use ROI for all project evaluations.

Note: Your instructor might assign you to a group to complete this case, and might ask you to prepare a formal presentation of your results to your class.

For Further Study and Research

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