Chapter 12
Planning for Electronic Commerce

At a Glance

Instructor’s Manual Table of Contents

- Chapter Overview
- Chapter Objectives
- Instructor Notes
- Quick Quizzes
- Discussion Questions
- Additional Resources
- Key Terms
Chapter Overview

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).

Chapter Objectives

In this chapter, you will learn about:

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

Instructor Notes

Planning Electronic Commerce Initiatives

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 - 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.

The Web is a tremendously attractive sales channel for many firms however, companies can use electronic commerce in a variety of ways to do much more than sell. They can use the Web to complement their business strategies and improve their competitive positions. As you learned in earlier chapters of this book, electronic commerce opportunities can inspire businesses to undertake activities such as:

<table>
<thead>
<tr>
<th>Business Activities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Building brands</td>
</tr>
<tr>
<td>♦ Enhancing existing marketing programs</td>
</tr>
<tr>
<td>♦ Selling products and services</td>
</tr>
<tr>
<td>♦ Selling advertising</td>
</tr>
<tr>
<td>♦ Developing a better understanding of customer needs</td>
</tr>
<tr>
<td>♦ Improving after-sale service and support</td>
</tr>
<tr>
<td>♦ Purchasing products and services</td>
</tr>
<tr>
<td>♦ Managing supply chains</td>
</tr>
<tr>
<td>♦ Operating auctions</td>
</tr>
<tr>
<td>♦ Building virtual communities and Web portals</td>
</tr>
</tbody>
</table>

**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.

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.

Managing Costs:

- **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 are called total cost of ownership.
- **Change management:** The process of helping employees cope with changes introduced in the workplace. Change management techniques include communicating the need for change to employees, 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.
- **Opportunity cost:** The foregone benefits that a company could have obtained from an electronic commerce initiative that they chose not to pursue.
- **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.
Change management deals with how changes to the system are managed so they don't degrade system performance and availability. Change management is especially critical in today's highly decentralized, network-based environment where users themselves may be applying many changes. A key cause of high cost of ownership is the application of changes by those who don't fully understand their implications across the operating environment.

In effective change management, all changes should be identified and planned for prior to implementation. Back-out procedures should be established in case changes create problems. Then, after changes are applied, they are thoroughly tested and evaluated. This article describes the process steps for change management and factors critical to its success.

**Step 1: Define change management process and practices**

- **Procedures for handling changes** - how changes are requested, how they are processed and scheduled for implementation, how they are applied, and what the criteria are for backing out changes that cause problems
- **Roles and responsibilities of the IT support staff** - who receives the change request, who tracks all change requests, who schedules change implementations, and what each entity is supposed to do
- **Measurements for change management** - what will be tracked to monitor the efficiency of the change management discipline
- **Tools to be used**
- **Type of changes to be handled and how to assign priorities** - priority assignment methodology and escalation guidelines
- **Back-out procedures** - Actions to take if applied changes do not perform as expected or cause problems to other components of the system

**Step 2: Receive change requests**

Receive all requests for changes, ideally through a single change coordinator. Change requests can be submitted on a change request form that includes the date and time of the request.

**Step 3: Plan for implementation of changes**

Examine all change requests to determine:

- Change request prioritization
- Resource requirements for implementing the change
- Impact to the system
- Back-out procedures
- Schedule of implementation

**Step 4: Implement and monitor the changes; back out changes if necessary**

At this stage, apply the change and monitor the results. If the desired outcome is not achieved, or if other systems or applications are negatively affected, back out the changes.
Step 5: Evaluate and report on changes implemented
Provide feedback on all changes to the change coordinator, whether they were successful or not. The change coordinator is responsible for examining trends in the application of changes, to see if:

- Change implementation planning was sufficient.
- Changes to certain resources are more prone to problems.

Step 6: Modify change management plan if necessary
You may need to modify the entire change management process to make it more effective. Consider reexamining your change management discipline if:

- Changes are not being applied on time.
- Not enough changes are being processed.
- Too many changes are being backed out.
- Changes are affecting the system availability.
- Not all changes are being covered.


Questions

- Why is change management considered so critical in today’s decentralized, network-based environment?
- What are the consequences of not implementing change management?

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.
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 marketplace. 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.

| ROI Built in Biases: | ♦ ROI requires that all costs and benefits be stated in dollars.  
|                     | ♦ ROI focuses on benefits that can be predicted.  
|                     | ♦ ROI tends to emphasize short-run benefits over long-run benefits. |

Quick Quiz

1. The term _____ describes the process of helping employees cope with changes.
   Answer: change management

2. Managers and accountants use the term _____ to describe the lost benefits from an action not taken.
   Answer: opportunity cost

3. Major investments in equipment, personnel, and other assets are called _____.
   Answer: capital projects, capital investments

4. True or False: ROI requires that all costs and benefits be stated in dollars.
   Answer: True
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.

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.

| Internal Development vs. 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. ♦ 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. |
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.

Partial 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.

Teaching Tip:
- Ask students to research the cost of implementing an internal call center versus outsourcing the call center for a small company. Students should submit a report summarizing their findings.

Selecting a Hosting Service

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

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.
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.

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.

Project Portfolio Management

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.

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:
General Areas of Staffing:

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

Postimplementation Audits

A postimplementation audit (also called a postaudit review) is a formal review of a project after it is up and running. It 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.

Quick Quiz

1. In _____, 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.
   Answer: partial outsourcing, component outsourcing

2. A(n) ____ 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.
   Answer: incubator

3. In _____, 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.
   Answer: fast venturing
4. _____ is a collection of formal techniques for planning and controlling the activities undertaken to achieve a specific goal. 
   Answer: Project management

**Discussion Questions**

- Discuss the difference between the net present value and the internal rate of return evaluation methods.
- For companies in the newspaper business, what is the opportunity cost of not having a Web presence?
- Discuss the advantages and disadvantages of outsourcing.

**Additional Resources**

- Fast Venturing: [http://www.informationweek.com/808/08uwak.htm](http://www.informationweek.com/808/08uwak.htm)

**Key Terms**

- **Change management**: The process of helping employees cope with these changes.
- **Call center**: A company that handles incoming customer telephone calls and e-mails for other companies.
- **Capital investment**: Major investments in equipment, personnel, and other assets.
- **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.
- **Incubator**: 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.
- **Outsourcing**: Hiring another company to provide the outside support for all or part of the project.