Chapter 4

Identifying and Implementing E-business

Learning Objectives

In this chapter, you will learn about:

- Identify benefits and estimate costs of E-business initiatives

- Strategies for the development of websites

- E-commerce enforcement management

- …

Introduction

- The ability of companies to plan, design, and implement cohesive online business strategies can make the difference between success and failure.

- The tremendous leverage that firms can gain by being the first to do business a new way (first mover) on the Web has caught the attention of top executives and investors in many industries.

Introduction

- The keys to a successful implementation of any information technology project are planning and execution.

- A successful business plan for an online business initiative should include activities that identify the initiative's specific objectives and link those objectives to business strategies.

- In setting the objectives for an online business initiative, managers should consider the strategic role of the project, its intended scope, and the resources available for executing it.

1. Identify benefits and estimate costs of E-business initiatives

Identifying Objectives

- Businesses undertake electronic commerce initiatives for a wide variety of reasons.

- Objectives that businesses typically strive to accomplish through electronic commerce

  ➢ Increasing sales in existing markets

  ➢ Opening new markets

  ➢ Serving existing customers better

  ➢ Identifying new vendors

  ➢ Coordinating with existing vendors

  ➢ Recruiting employees more effectively

Linking Objectives to Business Strategies

- Businesses use tactics called downstream strategies to improve the value that the business provides to its customers.

- Alternatively, businesses can pursue upstream strategies that reduce costs or generate value by working with suppliers or inbound shipping and freight service providers.

- The Web is an attractive sales channel for many firms; however, companies use electronic commerce to do much more than sell. They can use the Web to complement their business strategies and improve their competitive positions.

Linking Objectives to Business Strategies (Cont.)

- Online business opportunities include activities such as:

  ➢ Building brands

  ➢ Enhancing existing marketing programs

  ➢ Selling products and services

  ➢ Selling advertising

  ➢ Developing a better understanding of customer needs

Linking Objectives to Business Strategies (Cont.)

- Online business opportunities include activities such as (Cont.):

  ➢ Improving after-sale service and support

  ➢ Purchasing products and services

  ➢ Managing supply chains

  ➢ Operating auctions

  ➢ Building or using virtual communities to maintain relationships with customers and suppliers

Identifying and Measuring Benefits

- Some benefits of electronic commerce initiatives are obvious, tangible, and easy to measure, such as increased sales or reduced costs.

- Other benefits are intangible and can be much more difficult to identify and measure, such as increased customer satisfaction.

- When identifying benefits, managers should try to set objectives that are measurable, even when those objectives are for intangible benefits.

Identifying and Measuring Benefits (Cont.)

- 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.

- Companies that create Web sites to build brands or enhance their existing marketing programs can set goals in terms of increased brand awareness, which they can measure with market research surveys and opinion polls.

- Companies that sell goods or services online can measure increases in sales volume.

Identifying and Measuring Benefits (Cont.)

- A good marketing research staff or outside consulting firm can help a company identify the specific effects of their online marketing or sales initiatives.

- Marketing research staff or outside consultants can also help a firm set and evaluate its specific goals for online business 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.

Identifying and Measuring Benefits (Cont.)

Electronic Commerce Initiatives	Common Measurements of Benefits Provided
Build brands	Surveys or opinion polls that measure brand awareness, changes in market share
Enhance existing marketing programs and create new marketing programs	Change in per-unit sales volume, frequency of customer contact, conversion (to buyers) rate
Improve customer service	Customer satisfaction surveys, quantity of customer complaints, customer loyalty
Reduce cost of after-sale support	Quantity and type (telephone, fax, e-mail) of support activities, change in net support cost per customer
Improve supply chain operation	Cost, quality, and on-time delivery of materials or services purchased; overall reduction in cost of goods sold
Hold auctions	Quantity of auctions, bidders, sellers, items sold, registered participants; dollar volume of items sold; participation rate
Provide portals, social networks, and virtual communities	Number of visitors, number of return visits per visitor, duration of average visit, participation in online discussions

Figure 1: Measuring the benefits of electronic commerce initiatives. Source: Gary P. Schneider, Electronic Commerce 12th, Cengage Learning, 2017.

Identifying and Measuring Benefits (Cont.)

- 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, etc.

- Virtual communities and Web portals measure the number of visitors and try to measure the quality of their visitors' experiences.

Identifying and Estimating Costs

- ***Total cost of ownership (TCO)***

  ➢ In addition to hardware and software costs, the project budget must include the costs of hiring, training, and paying the person 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 the total cost for each activity. These cost numbers called TCO, include all costs related to the activity.

Identifying and Estimating Costs (Cont.)

- ***Total cost of ownership (TCO)***

  ➢ 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), Internet connections, design work outsourced, salaries and benefits for employees involved in the project, and the costs of maintaining the site once it is operational.

Identifying and Estimating Costs (Cont.)

- ***Opportunity cost***

  ➢ For many companies, one of the largest and most significant costs associated with electronic commerce initiatives is the opportunity lost by not undertaking such an initiative.

  ➢ Managers and accountants use the term opportunity cost to describe such lost benefits from an action not taken.

  ➢ Examples of opportunity costs: The value of customers not obtained, sales not made, suppliers not identified, or cost reductions not achieved in the company's supply chain.

Identifying and Estimating Costs (Cont.)

- ## *Website cost*

  ➤ The annual cost of operating an online business Web site generally ranges between 50 and 200 percent of the initial cost of the site.

	Small Online Store	Midsize Online Business	Large Online Business	Large Company's Online Business Integrated with Other Business Operations
Initial costs	$400–$7,000	$10,000–$1 million	$1 million–$5 million	$5 million–$100 million
Ongoing annual costs	$400–$14,000	$25,000–$2 million	$500,000–$10 million	$2.5 million–$200 million

Figure 2: Example of estimated cost for business website. Source: Gary P. Schneider, Electronic Commerce 12th, Cengage Learning, 2017.

Identifying and Estimating Costs (Cont.)

- **Funding Online Business Startups**

  ➢ Online businesses that are startup companies cannot, in general, borrow from a bank or offer bonds or stock to investors.

  ➢ Banks are reluctant to lend money on the strength of a good idea alone, and access to stock and bond markets is limited to companies with long track records of profitability.

Identifying and Estimating Costs (Cont.)

- **Funding Online Business Startups (Cont.)**

  ➢ Angel investors fund the initial startup and become stockholders in the business. In many cases, the angel investors end up owning more of the business than the founder.

  ➢ Venture capitalists are very wealthy individuals, groups of wealthy individuals, or investment firms that invest large amounts of money with hoping in a few years. The company will be large enough to sell stock to the public in an event called an initial public offering (IPO).

Identifying and Estimating Costs (Cont.)

- **Comparing Benefits to Costs**

  ➢ 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 total costs* required to generate those benefits, and evaluating whether the value of the benefits exceeds the total of the costs.

Identifying and Estimating Costs (Cont.)

- **Comparing Benefits to Costs (Cont.)**

  ➢ Most companies have procedures that call for an evaluation of any major expenditure of funds.

  ➢ If the benefits exceed the costs of a project by a comfortable margin, the company invests in the project.
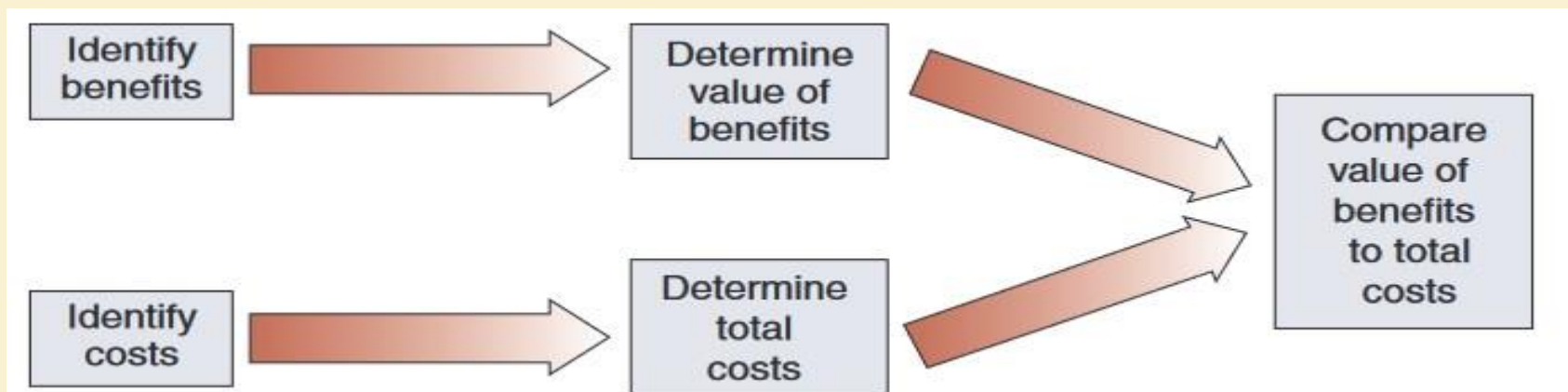

Figure 3: Cost/benefit evaluation of electronic commerce strategy elements. Source: Gary P. Schneider, Electronic Commerce 12th, Cengage Learning, 2017.

Identifying and Estimating Costs (Cont.)

- **Return on Investment (ROI)**

  ➢ ROI techniques provide a quantitative expression of whether the benefits of a particular investment exceed their costs (including opportunity costs).

  ➢ Capital project evaluation includes the *payback method (PBP)*, the *net present value method (NPV),* or the *internal rate of return method (IRR).*

  ➢ 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).

Identifying and Estimating Costs (Cont.)

- **Return on Investment (ROI) (Cont.)**

  ➢ For example

  ❖ Cisco Systems created online customer forums to allow customers to discuss product issues with each other.

  ❖ The main benefits of this initiative were to reduce customer service costs and increase customer satisfaction regarding the availability of product information.

In conclusion

- Identifying Objectives   **Understand**
- Linking Objectives to Business Strategies
- Identifying and Measuring Benefits
- Identifying and Estimating Costs

2. Strategies
for the development of websites

Internal Development versus Outsourcing

- **The Internal Team**

  ➤ The first step in determining which parts of an electronic commerce project *to outsource* is *to create an internal team.*

  ➤ This team should include *members with enough knowledge of technologies* to know what kinds of things are possible.

  ➤ The internal team should be responsible for the electronic commerce initiative, from *setting objectives* to the *final implementation and operation* of the site.

Internal Development versus Outsourcing (Cont.)

- **The Internal Team (Cont.)**

    ➢ Some companies make the mistake of appointing an e-commerce *project leader a technical* who does not know much about the business and *is not well-known* throughout the company.

    ➢ Project leaders need *a good sense of the company's goals and culture* to manage an implementation effectively.

Internal Development versus Outsourcing (Cont.)

- **Early Outsourcing**

  ➢ In many online business 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.

  ➢ The advantage is that operating an online business site can rapidly become a competitive advantage for a company.

Internal Development versus Outsourcing (Cont.)

- **Late Outsourcing**

  ➢ The company's *information systems professionals do the initial design and development work, implement and operate the system* until it becomes a stable part of the business operation.

  ➢ Once the company has gained *competitive advantages provided by the system*, the *maintenance of the online business system can be outsourced* so that the company's *experts develop new technologies to have further competitive advantage.*

Internal Development versus Outsourcing (Cont.)

- ## 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.

Internal Development versus Outsourcing (Cont.)

- **Partial Outsourcing (Cont.)**

  ➤ For example

  ❖ Many smaller Web sites outsource their e-mail handling and response functions.

  ❖ A number of companies act as outsourcers by providing these e-mail auto-response functions to other companies.

  ❖ Partial outsourcing is outsourced payment processing. Many vendors are willing to provide complete customer payment handling.

  ❖ Etc.

Incubators

- An incubator is a company that offers startup 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.

Incubators (Cont.)

- 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.

- Some companies have created internal incubators to develop technologies used in business operations.

- The business ideas developed in the incubator are eventually launched as separate companies with ownership of the assets used to create the ideas or products.

In conclusion

- Internal Development versus Outsourcing

- Incubators

Understand

3. E-commerce enforcement management

How to manage a Complex E-commerce Implementation

- The best way to manage any complex electronic commerce implementation is to use formal management techniques.

- Project management, project portfolio management, specific staffing, and post-implementation 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.

- 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 Management (Cont.)

- Project managers use specific software called project management software to handle projects.

- For instance, Microsoft project gives managers many built-in tools for managing resources and schedules.

- Project management software can help to manage the tasks assigned to consultants, technology partners, outsourced service providers, etc.

- Project managers can revise the estimated costs and completion times of future tasks.

Project Portfolio Management

- Project portfolio management is a technique in which each project is monitored.

- Larger organizations often have many IT implementation projects going on simultaneously a number of which could be electronic commerce implementations or updates.

- A company's top technology manager is its chief information officer (CIO).

- CIOs of some larger companies now use a portfolio approach to managing these multiple projects.

Project Portfolio Management (Cont.)

- 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.

- The information used in project portfolio management differs somewhat from the information used to manage specific projects.

- 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).

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:

  ➢ Chief information officer; Business managers; Project managers; Project portfolio managers; Applications specialists; Web programmers; Web graphics designers; Content creators; Social networking administrators; Online marketing managers; Customer service reps; Systems administrators; Network operators; Database administrators...

Staffing for Electronic Commerce (Cont.)

- In addition to implementing IT projects, the **CIO** is responsible for overseeing all of the information systems and related technological elements required to undertake and operate online business activities.

- The CIO's perspective is strategic and the person holding this position often serves as an important advocate for online business initiatives.

- They must have many years of experience in management positions.

Staffing for Electronic Commerce (Cont.)

- 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.

- 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.

Staffing for Electronic Commerce (Cont.)

- 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.

Staffing for Electronic Commerce (Cont.)

- The ***project portfolio manager*** is usually promoted from the ranks of the project managers and has the responsibility for tracking all ongoing projects and managing them as a portfolio.

- This is the person who makes the trade-offs in cost, schedule, and quality across projects and balances the needs of the organization with the resources devoted to all projects.

Staffing for Electronic Commerce (Cont.)

- As more vendors provide packaged software solutions for electronic commerce, companies need information systems staff that can install and maintain the software.

- Most large businesses have ***application 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 application specialists to maintain the software.

Staffing for Electronic Commerce (Cont.)

- Many online business teams include a ***social networking administrator***, who is responsible for managing the virtual community elements of the Web operation.

- These administrators might have backgrounds in technology, sales, customer service, or in widely diverse fields such as sociology or anthropology.

- They must coordinate all of the technologies that make the site work as a social network in ways that create value for the organization.

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Staffing for Electronic Commerce (Cont.)

- *A call center* is a company that handles incoming customer telephone calls and e-mails for other companies.

- 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.

Staffing for Electronic Commerce (Cont.)

- 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.

- The internal system administrator needs sufficient staff to maintain full 24/7 operation and site security.

- The functions of *network operations staff* include load estimation and load monitoring, resolving network problems, designing and implementing fault-resistant technologies, and etc.

Staffing for Electronic Commerce (Cont.)

- Most electronic commerce sites require a ***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.

Post-implementation Audits

- A post-implementation audit (also called a post-audit review) is *a formal review* of a project after it is up and running.

- The post-implementation 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.

Post-implementation Audits (Cont.)

- 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).*

- Many companies modify their project management organization structure after completing each project based on the contents of post-audit review reports.

- Each section of the report should compare actual results to the project's objectives.

Change Management

- Any information system project involves change, and change can be upsetting to people.

- 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.

- Employees 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.

Change Management (Cont.)

- Change management strategies include communicating the need for change to employees as follows:

  ❖ Allow employees to join in the decision processes leading up to the change.

  ❖ Allow employees to participate in the planning for the change and other issues.

  ❖ Etc.

- These help employees overcome the feelings of powerlessness that can lead to stress and reduced work performance.

In conclusion

- How to manage a Complex E-commerce Implementation
- Project Management
- Project Portfolio Management
- Staffing for Electronic Commerce
- Postimplementation Audits
- Change Management

Understand

THANK YOU
FOR YOUR ATTENTION

Q&A