The Internet is the starting point for an exploration of e-commerce, and the World Wide Web is a worldwide collection of computer networks, cooperating with each other to exchange data using a common software standard. Though considered by many as a new technology, the Internet has been around for several decades. Originally known as ARPAnet, the Internet was created in 1969 by the U.S. Department of Defense as a nationwide computer network that would continue to operate even if the majority of it were destroyed in a nuclear war or natural disaster. It was not until 1992 that commercial entities started offering Internet access to the general public, and the business world has not been the same since.

THE EFFECT OF THE INTERNET ON BUSINESSES

Over the past decade, widespread Internet and e-mail access have radically changed the way companies do business and communicate with their employees, vendors, and customers. Consumers and businesses purchase products and services such as $2,000 laptops and airline tickets by paying with credit cards via the Internet without ever speaking
to a customer representative or salesperson. Many companies allow customers to track the status of their orders online to see when their products shipped and when they are scheduled to arrive, again without ever speaking to a customer representative. When companies such as Amazon and Priceline emerged, their business models revolved around conducting 100 percent of their business online, eliminating the need for costly bricks-and-mortar outlets. More and more consumers are paying their bills online as they become comfortable with online security, thus eliminating the need to pay postage and write checks for each bill using the traditional snail-mail method. Today thousands of adults are getting their undergraduate and master's degrees online without ever attending an actual class or meeting their peers or professors, who teach the classes online. There are few businesses or organizations isolated from this transformational wave of technology and innovation.

**INTERNET FACTS**

According to www.internetworldstats.com, the total number of Internet users worldwide as of February 2004 is 719.3 million. This is approximately 11.1 percent of the total world population of 6.45 billion. IDC Research predicts that this number will exceed one billion users by the end of 2005. The United States is still the country with the highest number of Internet users at 186.5 million, 63.3 percent of the total population of the country, which stands at 295.5 million. Asia ranks highest as the continent with the most number of Internet users with a total of 229.82 million. North America is second at 203.38 million versus 203.28 million for Europe. Additionally, the countries with the highest percentage of the population using the Internet include Sweden (76.9 percent), Netherlands (66.0 percent), and Australia (64.2 percent).

**DESCRIPTION OF TYPICAL INTERNET USERS**

According to the UCLA World Internet Project’s findings based on research collected from 2002 to 2003, in general, around the world men are more likely (in some countries, such as Italy and Spain, much more
likely) to use the Internet than women. However, in countries such as the United States, Sweden, and Taiwan, the ratio of men to women who use the Internet is nearly 1:1.

It is interesting to note that according to the study, the average Internet user watches less television than non-Internet user counterparts. For example, in the United States, Internet users watch 5.2 hours less television per week. Internet users are also more likely to spend time reading books and engaging in social activities. They also tend to be more educated and have higher total household incomes.

**DEFINITION OF WEB-BASED SYSTEMS AND E-COMMERCE**

A Web-based system is a business process that is supported and accessed online. For example, e-commerce, a Web-based system involving purchasing products online, may include features such as charge card approval systems and customer order tracking systems, which provide companies with the opportunity to sell their products and services online more efficiently. Many internal employee Web-based systems such as payroll, vendor selection and ordering, time sheet, and expense report submissions are also examples of Web-based systems.

As an example of how Web-based systems are changing the way organizations harness the power of the Web, let’s look at the payroll function. Companies have to provide their employees with benefit information, taxes paid, vacation/sick days remaining, and so on each time they get paid. To complicate matters even further, of the people on payroll, some are contractors and part-time workers, while others are considered regular employees. If the company’s payroll system is Internet-based, data can be entered by disparate reporting units, in a wide array of geographic locations, away from the headquarters’ accounting and payroll office, if needed. The online system is able to keep better track of the number of vacation days, amount of 401(k) contributions, and health insurance deductions on each employee’s pay stub.

The process of accounting for employees’ time can also be automated, eliminating the need for manually totaling payroll hours and time cards, reducing the number of errors, and providing immediate
real-time data for managers, allowing them to make more department-specific, accurate, time-sensitive decisions. A Web-based payroll system is beneficial not only to human resources staff, but also to employees. They no longer have to make copies of their time sheets when they turn in the originals because past time-sheet records are available on the Internet for viewing and printing, and they no longer have to worry about calculational errors while adding numbers because the time sheets are automatically calculated online. The system also enables employees to fill out their time sheets while they are away from the office, which is especially convenient for those who spend a significant amount of time in the field.

Clients also appreciate suppliers and service providers who use Web-based systems. Not only does providing clients with access to information on your web site save them time, it saves you time as well. Allowing clients to access old reports and data from previous and current projects by using a password online saves you from having to take time out of your busy day to print out the report and ship it to the client. The client is able to log in online and make copies of the report himself, and the benefit to him is that he can access the information immediately. He does not have to wait for you to return from out of town to print his file and then wait another day or two to receive it in the mail. Clients can also access project and budget updates, participate in virtual conferences and meetings, and retrieve invoices online. While clients find the online process to be convenient and quick, your company saves time and money and also benefits from the “stickiness” factor. Once a client gets used to accessing information using your system, she will be less likely to switch her business to one of your competitors. As discussed in Chapter 8, this notion of switching costs is a key driver of customer loyalty and competitive advantage. Once clients understand and build trust in your system, they will be less likely to risk working with a company that does not offer this service to its clients or spend the time to learn how to use another company’s system.

An example of a company that takes advantage of the stickiness factor is Bank of America. The company used to charge customers for online banking, but now it offers the service for free. The bank realized that once customers spend time inputting all the information required
to use online banking and learning their system, they will be less likely
to move their account to another financial institution.

Another Internet-based system that many companies have imple-
mented is electronic bidding for products and services, meaning that
proposal bids are sent electronically instead of via regular mail or pa-
er-based systems. Benefits to companies of the electronic bidding sys-
tem include the arrival of bids in a consistent, legible format free of
calculation errors, and a reduction in the amount of man-hours and
other resources needed to print, distribute, and edit bids. The suppliers
who are bidding also benefit from the process because they have access
to project bidding information 24 hours a day, and they can send in
their bids even when they are away from their offices. Additionally, the
number of errors made on the forms is reduced because the system de-
tects them and will not accept them unless they are completed in their
entirety and are free of errors. Other advantages of electronic bidding
are the elimination of travel expenses and confirmation of delivery of
bid on the supplier side.

Although they may cost several thousand dollars to set up and
their maintenance and support functions may have to be outsourced,
in general Web-based systems are more cost-efficient since they save
on printing, human labor, mailing, and invoice costs.

As customers grow more comfortable with security issues regard-
ing purchasing products online, Jupiter Research predicts e-com-
merce—purchasing products or services online—will continue to grow
over the next five years, specifically among small businesses that have
established a reputation among consumers for being entities that are
legitimate and trustworthy. In addition, Jupiter Research predicts e-
commerce will grow from $65 billion in 2004 to $116 billion by 2008,
and the percentage of U.S. consumers who purchase products online
will increase from 30 percent in 2004 to 50 percent by 2008.

ADVANTAGES AND DISADVANTAGES OF E-COMMERCE

While e-commerce is expected to continue growing over the next sev-
eral years and trending toward wide adoption to sell products and ser-
vices online, there are many challenges that should be considered before implementing an online selling system for your company.

One major concern among consumers is that of security and privacy of personal information. Consumers want to be assured that the personal information they provide on a company’s site will not be sold to other companies for marketing purposes. Others are wary about technology that tracks personal information such as web sites visited and items purchased by customers. A major barrier for consumers who still do not purchase products online is the fear that a web site is not secure and that their credit card number or other personal information will be accessed by hackers.

Another reason many consumers choose not to purchase online is because of viruses. While in the past viruses were often spread by opening an infected e-mail, these days simply surfing the Internet is enough to be vulnerable to getting a virus. System downtime is another problem associated with e-commerce sites. Whether the downtime is a result of system maintenance, server issues, hackers, or poor system administration, it can have a negative impact on sales. If customers are unable to purchase from your site due to technical problems, they may become dissatisfied and visit the web site of your competitor instead.

Although there are several challenges associated with e-commerce, there are also many advantages to selling products online for companies and customers. One advantage for companies is cost savings through lower inventory management, customer service, administration, and communication costs, order tracking, and integration with the company’s accounting system. Web orders can be sent directly to the warehouse, which allows customer service representatives to focus on larger customer orders, while smaller orders can be handled more efficiently online. Detailed purchase history reports on each customer allow companies to design customized online purchase deals for customers who have not purchased from their sites in several months or reminder notices to order specific products for customers who purchase specific products on a regular basis. Current online inventory reports can aid in projecting inventory depletion and assist with product restocking information.

Manufacturers of products have the advantage of being able to sell directly to customers by bypassing the intermediary if they sell on-
line and are able to pass along some of the savings to their customers. Another advantage to companies is that sending e-mails to customers is an effective low-cost way of sending customized messages about upcoming products, special online purchase offers, or shipping and order confirmations. Additionally, specific customer information can be stored for repeat customers, making it easier to analyze customer groups. Benefits to consumers include 24-hour shopping, convenience, lower prices, special online promotions, comparative shopping, and proactive feedback from the company regarding stock-outs or delays in shipping.

**E-COMMERCE TRENDS**

Mitchell Levy of CEO networking has compiled a list of top technology-related trends for 2004. Of the top 10 trends on his list, two are related to e-commerce: the increase of spam and viruses and the continued growth of e-commerce.

According to *The Washington Post*, spam or unsolicited commercial e-mail accounts for about 50 percent of all e-mails. With the help of special software, spammers can generate various combinations of letters and numbers and place the name of a common Internet service provider (ISP) such as AOL after each @ to create a list of millions of e-mail addresses, many of which are actual e-mail accounts. Although as of 2003, 26 states had antispam laws, many people still continue to send out spam since they are unlikely to get caught, and it is an inexpensive way to reach customers. The fact remains that although only a handful of people out of a thousand people who receive a spam message open it and eventually make a purchase, spammers find it worth their time to spam because the amount of sales generated is higher than the cost to distribute spam. This creates a problem for legitimate companies that are sending out e-mails to current or past customers who may delete them thinking they are spam. Even though many believe there should be a ban on spam similar to the ban on unsolicited faxes that came into effect in 1991, others argue that banning spam violates spammers’ rights to free speech.

As more and more small businesses go online, e-commerce will
continue to grow in the coming years. According to e-Marketer, 80 percent of small business were online as of 2003.

E-commerce will continue to grow based on wider acceptance, reliability and security and that growth will accelerate on a multiplier to economic recovery. That is to say that e-commerce as a route to market will gain disproportionately from economic recovery.

—Jeff Drust, vice president, e-business, Autodesk, Inc.

Online sales will continue to rise. Convenience and familiarity are at work here. Those who have not bought will and those who have will buy more.

—Jim Sterne, president, Target Marketing

**STEPS IN DEVELOPING AN E-COMMERCE STRATEGY**

Depending on whether your company is currently selling online, the following section may either help you set up a web site or make your web site more successful. The first thing you should do before you begin the setup is determine what you expect to achieve by creating a web site. Without determining the scope of the project, it is impossible to be fully prepared for all the steps involved in the process. Be sure to consider the following:

✔ What are your goals and objectives for creating this web site?
✔ Which products or services will be provided?
✔ Who will the target market be?
✔ Should you hire an outside firm to help develop and maintain the web site or should you handle it internally?
✔ If the system will be handled internally, can you afford to hire a system administrator, Web copywriters, Web designers, project director, and/or software engineer?
✔ How will selling online affect your current relationships with your vendors, salespeople, and employees?
Will a Web presence contribute to “channel conflict” or the concerns by intermediaries that they may be bypassed by customers, who will be reaching you directly?

Where will the funding for the web site come from?

How much do you expect the total project will cost?

Can your current purchasing, accounting, and supplier systems be integrated into the web site’s system?

Do you have the infrastructure and customer response capabilities to support volume from the Web?

### Setting Up a Web Site

Once you have determined the scope of your web site project, the next step is to begin setting it up. First you have to create a domain name that is unique, yet descriptive. To make sure that you choose a unique company name, you may want to consider working with a lawyer or name consultant to avoid the hassle of having to change the name of your company later after finding out the name you picked already belongs to another company. After you have picked out a unique domain name, the next step is to contact a Web hosting service to secure and register your new domain name. A Web hosting service hosts your web site on its server. It also offers many features that you may select from such as offering a shopping cart on your site. Although it is possible to host your web site on your own server, this method is not recommended because of the high costs involved in doing so. The more people who visit your site, the more storage space you will need and the more money you have to pay; make sure the plan you pick allows for growth.

Although you may hire an outside firm to develop and maintain your web site, if you plan to make minor changes such as changing prices on the site you may want to consider having the necessary tools in your office to handle these minor changes yourself. For example, you need to consider how your site interacts with major Web browsers your customers are likely to use, such as Netscape Communicator and Microsoft Internet Explorer browsers. Since your customers will use either one of these browsers to access your web site, you need to test any changes you make in both formats to make sure the changes will
not cause problems for customers using either browser. You should also consider purchasing a file transfer protocol (FTP) program to upload any new files to your web site and a text editing software program such as Notepad that comes with Windows. Other tools you may want to purchase include HTML editors and tutorials, a digital camera, and graphics equipment.

**Web Site Content**

There are many things to keep in mind when developing the content for your web site. In general, web sites should be easy to use, clear, and concise, and should contain accurate and updated information. While you want to make sure your web site is interesting enough to entice visitors to continue browsing and clicking, you do not want to use graphics that take so long to appear that visitors become frustrated and leave your site. Be sure to offer visitors the option of viewing your page in another format if it takes too long to download, and keep your pages short so they download faster and eliminate the need to use the scroll bar. It is important to remember that your web site should be consistent with your company’s established brand, logo, mission, culture, and philosophy to avoid confusing customers, employees, and suppliers. Make sure your web site is user-friendly and easy to navigate. Also include a site map, and “contact us,” and FAQ (frequently asked questions) pages.

Alicia Sequerah, CEO of Womenetwork.com, also suggests using effective marketing copy on your web site, as the site is a part of an integrated marketing strategy. Sequerah suggests that companies should use more “you” phrases rather than “we” phrases to show customers how they will benefit from purchasing your products. For example, try using “You get . . .” rather than “We offer . . .” solutions to problems your target market is experiencing.

**Test Your Web Site before Going Live**

Once the web site is set up, all pages and features should be tested. Try to send an e-mail from the “contact us” section; try to purchase something from your shopping cart using a credit card; make sure that a confirmation e-mail is sent to your e-mail address and another e-mail
is promptly sent to your supplier; see how long it takes your home page to appear completely; try to send in a bid. Just make sure you test all parts of the web site. Upon successful completion of internal testing, the next step is to conduct focus groups or one-on-one interviews with current customers, vendors, clients, and prospective customers to find out what they like and dislike about your site, as well as to ask for suggestions on how to improve it. Once the system goes live, if it does not work properly you risk frustrating or alienating customers, employees, and suppliers; so it is best to test it thoroughly and get feedback before going live even though you may have to spend more money than you initially thought.

Web Site Maintenance and Refreshment

Just because your web site is up and running does not mean that your work is done. Your web site needs constant refreshment, refinement, and incremental, continuous improvement. Product prices, availability and descriptions, phone numbers, employee contact information, news and press releases, and all other sections of your web site must be updated on a regular basis. Additionally, to increase the number of times customers visit your web site, you should give them a reason to revisit your site. Give them the option to bookmark your web site, automatically add them to your newsletter, customer discount, and order reminder lists (also extend them the option to decline this offer), offer links on your web site to complementary web sites your target market would find interesting, offer sweepstakes or contests online, and make changes to the web site based on customer feedback. Every visitor to your web site is a potential customer. Implement ways to capture, and keep in touch with, visitors to your web site!

Promoting Your Web Site by Attracting a Target Market

Your company may have a great web site, but you should not subscribe to the Field of Dreams approach to web site development (“If you build it, they will come”). You need to make some adjustments so you can reach your target audience, and conversely, so your customers will find you. According to Dr. Ralph Wilson, an e-commerce consultant, there
are many things a company can do to try to reach its target audience. One thing he suggests companies do is track the number of visitors who visit their web sites. Your hosting service should be able to provide these figures to you each month. Some specific things you can track include:

- **Agent log**—record of links used by those who visited your site.
- **Browser**—Which browser do your visitors use?
- **Entry page**—Which page of your site do visitors see first?
- **File**—number of times a particular file is accessed.
- **History**—analysis of specific features over several months’ time.
- **Impressions**—number of times a logo is viewed.
- **Path**—page sequence followed by visitor.
- **Repeat visitors**—number of repeat visits from same address.
- **Sales**—by frequency, volume, and sales amount.
- **Sessions**—number of times site has been accessed by the same user in a specific amount of time.
- **Time**—amount of time visitors spend on each page.

Something else Dr. Wilson recommends is submitting your URL to search engines such as Yahoo! by clicking on the “Add your URL” link on their web sites, and submit your site to directories such as About.com. You will be prompted to write a short description of your web site, so think about what words people would plug into search engines to search for your products and services before submitting the description of your web site.

Additionally, you should try to find web sites that complement your products and services and place reciprocal links or banner ads on them. Writing articles for another web site’s newsletter is another effective way to spread the word around about your web site. Try developing your own newsletter, and e-mail it to those who visit your web site once a quarter. This helps keep your company on their minds. Providing readers with the option of e-mailing your newsletter to a friend is another great way to make people aware of your web site. Lastly, don’t
forget to add your web site address on all your company’s brochures, stationery, and so on.

**Efficiencies of E-Commerce**

Once you take the time to set up e-commerce on your web site, you can leverage the benefits. When a customer places an order, an e-mail is sent to his e-mail account, thanking him for placing his order with your company. Another e-mail is sent to your company's warehouse, a supplier's warehouse located nearby, or a manufacturer—whichever is responsible for shipping the products. Products can be shipped directly to the customer without having to be sent to your company, which not only shaves a few days off the total shipping time, but it also eliminates additional shipping, inventory tracking, and storage costs. When the order has shipped out, an e-mail is sent to the customer's account alerting him of an estimated shipping arrival date and a link to the shipping company's online package tracking system. Because the customer paid for the products and services with a credit card, there are no invoices or late payment hassles to deal with, which eliminates the need for more staff. The automated system can also e-mail reminders to customers about purchases, special online offers, and upcoming new products and services.

You should consider outsourcing the product fulfillment and inventory management processes so that you can focus more on your company’s competencies. These companies handle everything, including setting up the software; running daily, weekly, and monthly warehouse inventory reports; packing and verifying your orders; and shipping them out.

**Monitor and Track Visitors and Sales**

A major advantage to having a web site is being able to track visitors’ behavior. All customer and visitor data should be tracked and analyzed on a regular basis. Once the data is properly analyzed, customers can be grouped and targeted with customized offers, which can enhance sales. It is important to monitor the success of your web site so that you can make changes to enhance efficiency and sales even further.
While the Internet is an international network of computers linked together, an intranet is an internal network that can be accessed only internally and usually is accessed through a password by authorized users such as employees, existing clients, or customers. Allowing clients to access project and budget data, invoices, and old reports through a password is an example of an intranet.

The key advantage to implementing an intranet is improved communications; an intranet facilitates employees sharing knowledge with each other, collaboration on work-related documents, learning the latest company news, and socializing outside of work and forming stronger bonds. Additionally, intranets can save companies money on printing, paper, and distribution costs. They can also increase productivity and efficiency.

For example, if employee directories, benefits information (401(k), health insurance, etc.), holidays, upcoming events, company organizational charts, and policies are posted on the intranet, employees spend less time searching for paperwork or calling employees in other departments for answers to their questions. Employees can also receive information regarding news and announcements simultaneously and in a timely manner rather than having to wait for the information to be announced in the next staff/team meeting or distributed in their internal mailboxes. This sharing of information makes employees feel like they are an important part of the organization. As a result of improved communications and efficiency, employees are more likely to be satisfied with their jobs and become more loyal to the company, thereby increasing employee retention and improving customer service.

To ensure that an intranet is successful, the information on it must be consistent with the company’s brand, business objectives, and mission. Additionally, enough staff and resources should be allocated to promote and implement the intranet as well as adequate staff to maintain and refresh it.

When thinking of a domain name for your intranet, think of a name that is consistent with your brand. For example, Southwest Airlines’ intranet is called Freedom Net, based on its external brand “A
Symbol of Freedom,” which is easier to remember, more energizing, and powerful than www.southwest.com/employees/intranet.

The best way to find out what information should be included in your intranet is to conduct interviews or focus groups with employees from various departments.

Incorporating intranet objectives in regular strategic planning helps to ensure that the intranet is aligned with your company’s goals and objectives each year. Ideally, you should consider a team approach, incorporating input from a diverse set of users’ needs and perspectives to review and refresh the intranet. The intranet strategist would monitor performance against objectives, track the budget and resources allocated to the project, and ensure that standard procedures are implemented in the layout of pages. The intranet operations person would be responsible for the day-to-day operations of the site, which includes interacting with other departments such as human resources and marketing to obtain updated materials. The intranet developer’s main job is to determine ways in which to improve and enhance the intranet. However, depending on how large your company is, you may assign only one person to be responsible for all three major tasks or find this function to be well served by outsourcing to a consultant.

Along with analyzing suggestions that employees send via the online suggestion box, employees should be surveyed on a regular basis about the intranet’s content and design, and results should be available on the intranet for all employees to see. If changes are made as a result of feedback from employees, be sure to mention this on the intranet to prove to your employees that you value their feedback and make them feel like they are actively involved in the process.

Simply alerting your employees via e-mail that your company has implemented an intranet may not be enough to entice them to use it. You need to get them energized and excited about the intranet. Perhaps you could provide lunch for your staff one day and explain how to use it and what the benefits are to them and to the company. You can also create a formal implementation plan and publicize it internally by using testimonials and specific stories from employees who have tested it, with confirmation about how easy it is to use and what the specific benefits to them are. In addition, you could also mail out an announcement letter or even hold an intranet launch party.

The success of your intranet depends not only on adequate staff,
funding, and site content, but also on senior management buy-in. If senior management fails to actively support the intranet, it will be a challenge to convince others to use the system. If company leaders expect their employees to use the intranet, they must lead by example and use it themselves.

**SUMMARY**

Harnessing the power of the Web and technology is a vital part of an organization’s success and future. To remain competitive in today’s business environment, companies must retain their employees, improve communications with clients and employees, improve productivity, increase efficiency, and reduce costs. Implementing an intranet and integrating the Web into a strategic plan can help achieve these goals. While web sites can be used as marketing and sales tools, they can also be used to improve internal organizational efficiency by streamlining the order, tracking, and vendor bidding processes. In today’s complex, competitive world, technology can be a powerful element in attaining competitive advantage, lowering costs, increasing customer satisfaction, and achieving long-term success.

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