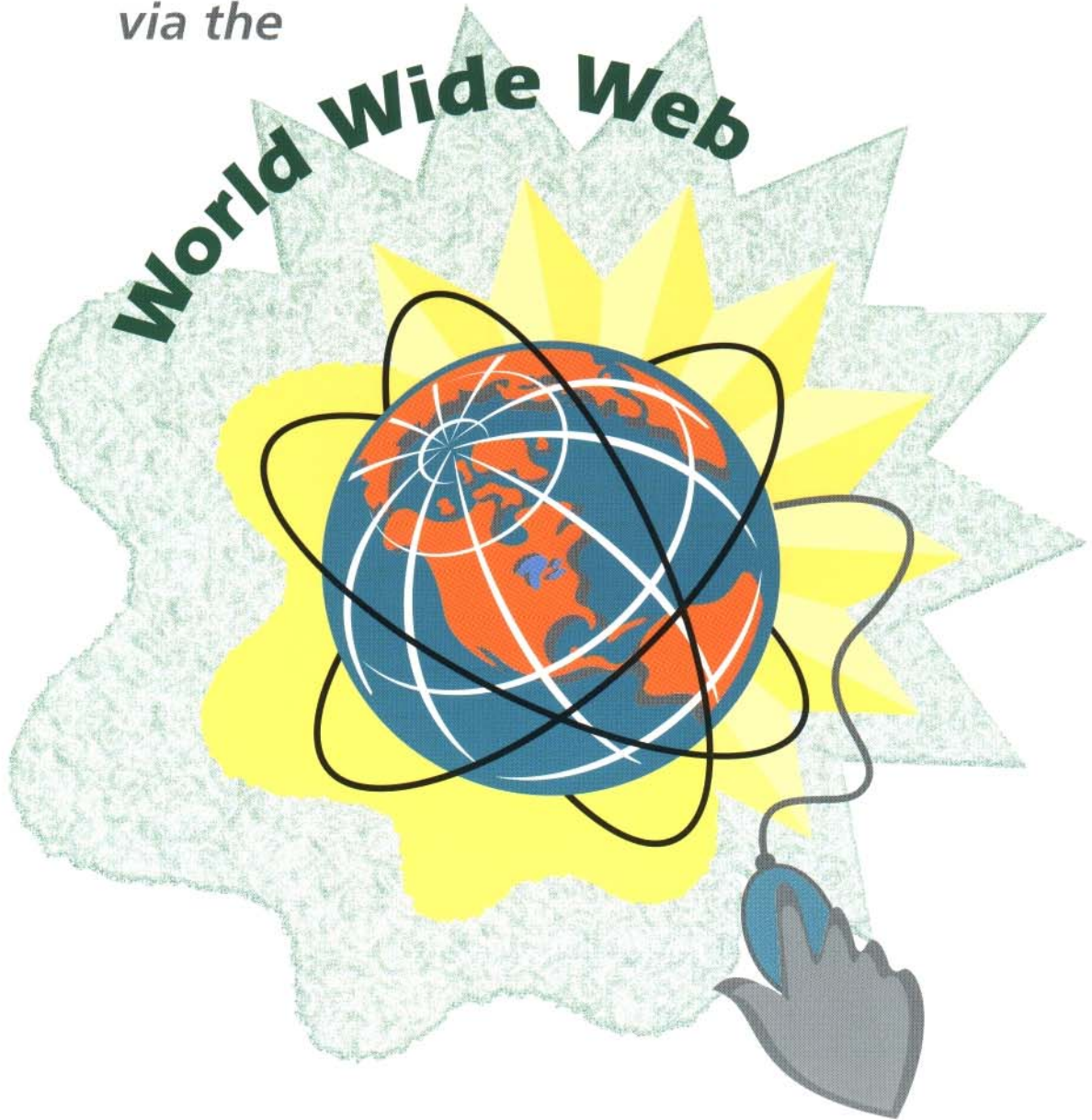


Expanding Business Opportunities

via the

World Wide Web



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This guidebook was created in a collaborative effort with Southern California Edison and the School of Business and Economics at California State University, Los Angeles.

Southern California Edison is the nation's second-largest electric utility, serving more than 4.1 million customers in Central and Southern California. Edison is a leader in developing programs that help businesses make money-saving decisions to meet competitive challenges and prosper.

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Contents

I. Introduction	1
The Internet (Net)	1
The World Wide Web (Web)	1
Some Internet Traditions	1
Internet Users	2
Internet Commerce Projections	3
II. Internet Business	5
General Objectives	5
Examples of Business Uses	5
Current Business Applications	7
III. Market Research On The Net	9
Information Resources on the Net	9
Customer Demographics	10
IV. Marketing On The Net	11
Growing Importance	11
Advertising Via the Web Site	11
Web Site Construction	12
Repeat Visit Generation	14
V. Future Growth Of Online Commerce	15
Barriers to Internet Commerce	15
Satisfying Customer Needs	15
Methods to Secure Transactions	16
Advanced Secure Payment Solutions	17
VI. Learning From Existing Web Sites	19
Examples of Successful Web Sites	19
Other Interesting Business Web Sites	20
Government Web Sites Useful for Business	22

1. Introduction



A. The Internet (Net)

You may have read about it in newspapers and magazines. You may have heard of it from radios and televisions. What is the Internet anyway? How did it come about in the first place?

The Internet (or the Net) started out in the late 1960s as a computer networking project funded by the United States government. Initiated by the Department of Defense's Advanced Research Project Agency, the project aimed to link together various U.S. military research centers to secure information exchange between these centers and the Pentagon. At the core of the network, called ARPANET, is a system of specialized computers and high-speed, high-capacity data transmission lines. The ARPANET was designed to work even if some computers on the network malfunctioned or part of the network was destroyed under extreme situations, such as a missile attack. In the 1980s, the National Science Foundation promoted universal educational access by funding university connections.

Originally, the typical networked sites were military bases, universities, and companies with defense department contracts. As the ARPANET extended in size, it became increasingly more accessible to the public. Additional networks such as BITNET, CSNET, USENET, DECnets and EARN (European Area Research Network) were later developed and also connected to the ARPANET. When interconnection arrangements were made between such multiple interdependent networks (federal, regional, campus and foreign networks), the ARPANET grew into what is currently known as the Internet. In 1995, the backbone operations of the Internet were turned over to the private sector by the National Science Foundation. Since then, this network has been transformed into the world's

fastest and most sophisticated communications system.

B. The World Wide Web (Web)

Early users of the Internet were mainly attracted by its electronic mail (email) feature. However, many people were discouraged from using the Internet because of its complexity. In the early 1990s, the World Wide Web was developed by a group of researchers at CERN, European Laboratory for Particle Physics, located near Geneva in Switzerland. The Web is an organization of files on the Internet through which the average user can access and provide information (texts, audio and graphics) in a common manner among interconnected computers all over the world. Graphical Web browsers, such as Netscape Navigator and Microsoft's Internet Explorer, allow the Web to be easily accessed and navigated by pointing and clicking. Many companies are exploiting the sales and marketing potential of the Web in view of its enormous explosion in popularity.

C. Some Internet Traditions

The history of the Internet has developed particular traditions and characteristics, often referred to as cyberculture, shared by Net users:

An informal, casual environment. The Net has had a long history of being used by researchers to exchange ideas and data for scientific work. Communications between Net users are typically informal, not business-like. The casual, succinct way people write email reflects such a tradition.

Many specialized Internet communities. Sharing of information and ideas was the basic purpose for the origin of the Internet. In the

early days, it served the research and education communities exceptionally well. Nowadays, Net users are from all over the world with diverse interests and different cultural and socio-economic backgrounds. For efficient communication, the Internet invites the formation of many specialized discussion groups (called newsgroups).

A traditionally noncommercial medium. The Internet was virtually free of commercial activities. This explains why advertising is not, in general, too welcome over the Net. For example, massive mailing of unsolicited advertising material over the Net should be avoided. Unwanted advertisements may be considered an intrusion to privacy and infuriate recipients, and the company involved may receive email bombs, hate fax messages and hostile phone calls, as well as alienate potential customers and lose repeat customers.

Valuable information for free. Information has typically been free on the Internet. Internet is, therefore, sometimes referred to as a gift economy. Companies planning to do business on the Internet should consider offering free and useful information as an important part of their business strategy. Indeed, giving away free goodies can be a good way for companies to publicize themselves to Internet users, entice people to visit their Web sites, promote goodwill, and generate repeat customers. Successful business Web sites generally offer free advice or information, whether or not the Net user is a customer.

D. Internet Users

Who are Net users? As discussed in an article of *The Wall Street Journal* (December 9, 1996), Net users follow some typical profiles. The average Net user is relatively young and more likely to be a man. Most users still earn higher-than-average incomes, though less so than before. The user is probably more educated than the average person and is probably in a computer-related or professional job.

A recent issue of *Business Week* (May 5, 1997) reports, however, that some Net demographics are shifting based on a study conducted by Louis Harris & Associates, Inc. and Baruch College of the City University of New York. Increasingly more women are on the Net, and the gender gap is steadily closing. Women made up 41 percent of the Net population in 1997, up from just 23 percent in 1995. The number of Americans using the Net has nearly doubled over the last year. One quarter of Net users - some 10 million people - have purchased something online. The Net is not just for the young: 45 percent of adults surfing the Net are age 40 or over, with baby boomers - those in their 40s - making up the largest group of all web users, at 26 percent. This contrasts with 32 percent of Net users who are between 18 and 29.

On the other hand, the Baruch College-Harris Poll confirms other Net demographic features. Adult Net users are more affluent and better educated than the population as a whole. More than 42



percent have household incomes greater than \$50,000, compared with 33 percent of the overall population. 73 percent of Net users have attended college, versus 46 percent of the total population. Nonetheless, given the dynamic and changing nature of the Net, these demographic patterns can change over time. As more and more people venture onto the Net, the Net population may begin to reflect more the general population.

E. Internet Commerce Projections

Various companies have given forecasts about the potential size of online commerce. For example, Arthur D. Little, Inc., a consulting firm headquartered in Cambridge, Massachusetts, projected that internet commerce would total US\$ 175 billion by the year 2000 and US\$1 trillion by the year 2010. ActiveMedia, Inc., a research company in Peterborough, New Hampshire, forecasted internet commerce would reach US\$275 billion by the year 2000. According to a research

report (July 1997) by Forrester Research, [Inc. in](#) Cambridge, Massachusetts, Internet business-to-business trade could skyrocket from \$8 billion in 1997 to \$105 billion in 2000, with manufacturing for durables (\$37 billion), wholesale and retail (\$48 billion), and services (\$11 billion) the three largest sectors (see Table 1). The International Data Corporation in Framingham, Massachusetts, predicted Internet commerce could grow to more than \$220 billion during 2001.

In regard to the number of Internet users, a market study report (November 1996) by Jupiter Communications, LLC, a New York City-based new media research company, suggested that the number of online households will rise from 14.7 million in 1996 to 36.0 million in 2000 for the U.S., and from 23.4 million in 1996 to 66.6 million in 2000 worldwide. More recently, e-land Inc. projected the number of Internet users will reach 142 million by the year 2000, with 71 million of them coming from the U.S. (see Table 2).

11. Internet Business



A. General Objectives

Increasing sales and reducing costs are two eventual objectives in considering the use of Internet for business. Sales increases can be attained by gaining access to a promising new market with a broad customer base, which is still rapidly expanding. Cost savings, on the other hand, can be achieved indirectly by improving work efficiency, and directly by lowering operating and overhead costs (including paper, printing, phone, postage, personnel and traveling costs). In fact, the use of Internet can have significant effects on and bring benefits to many aspects of business operations. They include product/service development (market research, trials of ideas and new products or services, product launch, and product improvement), marketing (product promotion and company and product image development), sales (comparison shopping, order taking, payment processing, and delivery), customer support (pre-sales support and postpurchase support), and communications with stakeholders (shareholders, the press, prospective and existing customers, suppliers, distributors, and employees). In essence, the Web can proffer many valuable services to business. Examples of these services are listed below.

B. Examples of Business Uses

I

1. Conducting marketing research

It is inexpensive to perform marketing research on the Net. The Net allows easy access to an enormous amount of government, business, social and demographic data, which can be costly to obtain from a marketing research company.

Internet traffic at Web sites also generates a trail of statistics for analysis by companies. Close contact with the customer, made possible by Internet commerce, can generate valuable feedback and offer insights into consumer behavior.

2. Testing new products and services

The Internet can be a good place to try out new products and services. Software designers, for example, have exploited this and conducted betatesting of their new products. Since customer feedback can be collected quickly on the Net, it helps companies deliver better final products to the market quickly.

3. Providing information on products and prices

A basic function of the Internet is to provide information. Using the Internet, companies can offer product information (including pictures and descriptions of products) in a cost-effective way. Displaying a product catalog online, for example, enables companies to announce new products, change product lists and update prices quickly, since Web documents can be changed by the companies themselves with little effort and cost after they have been put in place. This contrasts with traditional printed catalogs, creation and distribution of which are costly in both time and money. The availability of an electronic catalog may also help free up some company resources previously spent on providing standard product information through the telephone, fax or mail. For customers, it facilitates comparison shopping. Moreover, with an electronic catalog, a searchable database can be developed, allowing prospective customers to search and locate easily the information on specific products.

4. Promoting positive company images

In addition to product and service information, the Net can be employed to present a positive company image. For example, the background of the company and its successful growth can be described. Participation of the company in social and community services can also be reported. For some businesses such as law firms, accounting firms and clinics, selected biographies of the owner(s) and some of the personnel may also be included on the Web page.

5. Taking orders and handling transactions

The Net provides a new medium for companies to sell their products. Through the use of interactive forms, all needed information about customers (from mailing addresses to credit card numbers) and their orders can be taken online. Although the entire sales transaction may be handled over the Net, you can also supplement the electronic with the traditional method by providing a phone number, fax number or mailing address to customers. The important point is that the Internet provides a new medium to carry out transactions and companies should let customers make their individual choices.

6. Delivering products and services

Some companies may not only sell their products online but also deliver their products over the Internet because it is an inexpensive, fast delivery medium. Such application of the Net depends, of course, on the nature of the products involved. Service- and information-based products appear especially appropriate. Products such as computer games, software programs (including documentation), credit reports, research reports, newsletters, newspapers, and magazines are some examples.

7. Improving customer service and support

The Net can be used not only to draw in new customers but also to service current customers. For example, the Net can serve customers by providing online order entry and order tracking functions. It can also be used for scheduling appointments for customers. The Net provides an efficient tool to dispense standard forms, documents, brochures or booklets, electronically. Such dispensing capability should be particularly attractive to organizations such as schools, law firms, insurance companies, real estate companies, travel agencies, investment companies, mortgage companies, accounting firms, and state and federal agencies. Setting up a FAQ (Frequently Asked Questions) page online is a good support resource for customers. Instructions regarding product/ service use can be provided. Simple instructions for customers to submit comments and suggestions and to report problems should be included as well. All the above can help improve customer service and support and at the same time improve operation efficiency and cut down on office expenditures, like phone charges, postage expenses and paper, printing, copying and distribution costs.

8. Improving communications with stakeholders

The Internet can be used as a tool to collect and distribute management information and become an integral part of the organizational infrastructure. Management information such as annual company reports, quarterly earnings statements and press releases reporting company news can be made available on the Web to prospective and existing stockholders in a timely fashion. This kind of information about business performance and company events can also be forwarded easily to the press when needed.

Standard information concerning the company's services and products, contained in catalogs, brochures and booklets can be given on the Web, thereby providing global access for potential and existing customers. The company can maintain customer contact by collecting, analyzing and addressing customer inquiries, comments, suggestions and complaints received through the Net. In this way, the company can understand more about its customers' wants and needs. The Internet can also be used to provide better communication with suppliers and distributors in regard to product offerings, prices, inventories, invoicing, and delivery schedules, thereby fostering collaboration and coordination between these business partners and the company. Note that Web pages serve both customers and business partners 24 hours a day, 7 days a week, with no overtime charges.

For employees, employee handbooks and other company documents can be stored online for authorized personnel to access. Electronic versions of memos, report drafts and project proposals can be circulated and distributed among employees and the management. Teamwork among employees may grow. In addition, the Internet can link employees who telecommute to their companies. Traveling needs may be cut by having more meetings over the Internet. Such benefits are particularly relevant for companies with branches or subsidiaries at different geographical locations.

9. Providing Internet-Related services

Companies may be created to help other companies advertise and promote their products over the Internet. Companies may also be set up as

Internet service providers, which assist users with taking and tracking orders, processing transaction payments, hosting and monitoring Web sites, providing Internet access, operating virtual malls, and offering Internet directory services.

10. Tracking competitors

Companies can identify who their competitors are on the Net and learn more about the strengths and weaknesses of those competing companies. By monitoring the competitors' sites regularly, companies can study their product offerings and business strategies.

C ■ Current Business Applications

Arthur D. Little, Inc. conducts the Internet Technologies User Survey online to provide insights into the Internet usage for business. According to the Survey, major applications of the Internet include marketing and advertising, providing product information, providing company information, and selling products/services. Next on the application list in terms of significance is providing customer services and obtaining information on suppliers' products/services. Other significant applications noted by the business users are researching competitors, distributing services through new channels, accessing new markets, offering new products/services, and accessing suppliers electronically.

III. Market Research On The Net



A Information Resources on the
AS mentioned earlier, a tremendous volume of useful government, business and demographic information is available on the Net. Some examples are:

- Social, demographic and economic statistics can be obtained from the Web site of the U.S. Census Bureau (www.census.gov).
 - Information on Internet users and newsgroups can be located using the AltaVista search engine (www.altavista.digital.com) developed by Digital Equipment Corporation or the HotBot search engine (www.hotbot.com) of Wired Digital, Inc.
 - For patent and trademark information, you may visit MicroPatent's Web site (www.micropat.com) or Questel-Orbit's Web site (www.questel.orbit.com).
 - To find the product, service or company that you are interested in, you can make use of the Thomas Register of American Manufacturers (www.thomasregister.com), with more than 150,000 U.S. and Canadian companies in the database.
 - To find specific Internet organization information based on geographical location, industry classification or specific domain name, you can visit the Web site sponsored by the Internet Business Information Services Company in Pittsburgh, PA (www.internet.org).
- j More specific information about Internet demographics and their analyses and implications for Internet commerce can be obtained from a number of sources:

- Research reports by Forrester Research, [Inc. in](http://www.forrester.com) Cambridge, MA (www.forrester.com), which provide demographic analysis of Web users and the penetration of the PC market.
- The CommerceNet/Nielsen Survey conducted jointly by CommerceNet in Silicon Valley, CA (www.commerce.net) and Nielsen Media Research in New York City (www.nielsenmedia.com). The Survey looks at the use and purchase trends in the Internet market.
- The Internet Index of Open Market, [Inc. in](http://www.openmarket.com/) Cambridge, MA (www.openmarket.com/info/intindex). The Internet index is an interesting collection of facts and statistics about the Internet and related
- The World Online Markets study by Jupiter Communications, [Inc. in](http://www.jup.com) New York City (www.jup.com) provides data and projections about Internet users in North America, Europe, and the Pacific Rim.
- The Nua Internet Surveys by Nua [Ltd. in](http://www.nua.ie) Dublin, Ireland (www.nua.ie) produce comprehensive studies of Internet usage and business prospects, with an international focus.
- The Yankelovich Cybercitizen Studies by Yankelovich Partners, [Inc. in](http://www.yankelovich.com) Norwalk, CT (www.yankelovich.com) present results of a research program to help businesses evaluate the consumer opportunities of interactive communication by monitoring Internet usage, demographics and trends.
- The 7th WWW User Survey by the Graphic, Visualization, & Usability Center of the Georgia Institute of Technology (www.gvu.gatech.edu) examines the characteristics and behavior of Web users.

- The 1997 American Internet User Survey by the Emerging Technologies Research Group of FIND/SVP in New York City (www.find.com) offers a comprehensive look at Internet user behavior and attitudes.
- The Internet Technologies User Survey by Arthur D. Little, [Inc. in](http://www.arthurdlittle.com) Cambridge, MA (www.arthurdlittle.com) offers interesting information concerning how companies use the Net for business.
- More data on Internet demographics and usage can be found at the Web sites managed by Media Metric, [Inc. in](http://www.mediametrix.com) New York City (www.mediametrix.com) and by e-land Inc. (www.e-land.com).
- The CyberAtlas site (www.cyberatlas.com) contains many compiled statistics about the Internet market, including its size, demographics, geographics and usage patterns (see also the e-land Web site).

Given that the Net is so extensive and decentralized, special efforts have to be made in order to find specific information of interest. According to the Spring '97 CommerceNet/Nielsen Media Research Study of internet demographics and electronic commerce, search engines are reported to be the most popular Internet tool for surfing the Web. Among frequent users, 71 percent most often use search engines to locate Web sites. Other information-finding methods include recommendations from friends and relatives (9.8 percent); newspapers and magazines (8.5 percent); links from other Web sites (8.4 percent); television (3.6 percent); printed Internet directories (3.3 percent); and exploration by browsing (8.1 percent).

Many different search utilities are currently available for locating information. They include

Web search utilities (AItaVista, Excite, HotBot, Infoseek Ultra, Open Text, and WebCrawler), Usenet search utilities (AItaVista and Deja News), Web directories (LookSmart and Yahoo), Internet resource directories (Searchable Directory of Listservs, Searchable Directory of Usenet Groups, and Directory of Email Addresses), and Web meta search utilities (MetaCrawler, Dogpile, and Savvy). The meta search utilities allow multiple index searches simultaneously. Useful tips about how to operate individual search engines are given at the FINDSPOT site (www.findspot.com) created by Digital Tools and Designs, Inc.

B. Customer Demographics

Companies can gather demographic statistics about their prospective and existing customers online. For example, the log file in the server can provide traffic statistics such as the time and date of each access, the domain name of where the user accesses the Net, and the frequency at which individual Web pages are accessed. Such information may show how effective the site is and which parts of the Internet community are interested in the products/services of the company. A membership or login system may be implemented to collect demographics about the Net users. Using interactive forms, the company can further solicit specific information regarding market awareness of their products, customer needs and product/service satisfaction. A survey on specific consumer issues can be posted at the company's Web site. A customer history database can also be created, and the data can provide useful insights into your customers' purchasing behavior. In general, the more a company understands its customers, the more it is able to build better products and services.

IV Marketing On The Net



A. Growing Importance

In comparison with conventional marketing channels, the Net has been gaining importance as a medium for marketing and advertising. According to the findings of the 1997 American Internet User Survey by the Emerging Technologies Research Group of FIND/SVP, the use of traditional media (TV, print and radio) by Internet users has declined, and more than 20 million Americans consider the Net an "indispensable" part of their lives. The Survey further indicates that Internet advertisements are effective: 39% of users who have made purchases on the Net clicked on and looked at advertisements prior to purchasing. The Internet Technologies User Survey by Arthur D. Little, Inc. also finds that marketing/advertising and providing product information are often cited as the two most valuable business applications of the Web.

The growing importance of Internet marketing may reflect that the Net is a medium of special characteristics:

- The Internet is an interactive medium. It can both send and receive information, providing two-way communication. Such medium makes it possible for the whole business transaction to be processed efficiently on the Net. For example, after clicking on a Web advertisement, shoppers can make "impulse" purchases and obtain instant satisfaction.
- It is a highly-effective communications channel. A tremendous amount of information can be delivered instantly to a large audience over a wide geographic area. Such capability makes the Internet a low-cost advertising medium.
- Internet users have already organized themselves into mailing lists and discussion

groups. These Internet communities comprise members with common interests and defined demographics, enabling advertisers to target buyers. Of course, the company should respect the Internet culture in conducting online advertising; otherwise, it can lead to resentment and backlashes against the company, such as jamming of phones and fax machines.

B. Advertising Via the Web Site

By creating a Web site for your company, a marketing message tailored by your company can be displayed as an electronic billboard to the world. Before discussing the construction of the site itself, some general tips for Web site advertising should be noted.

1. Provide interesting and useful information

An effective way to entice Web users to visit your company's Web site is to provide interesting and useful information related directly or indirectly to the products or services of the company. For example, a flower shop can give gift ideas and decorating tips using flowers. An investment company can provide stock quotes and general investment tips. An accounting firm can post information about any new changes in accounting rules or tax codes. A law firm can offer professional advice on some general legal matters. A mortgage company can provide data on crime rates and education in various local communities. A travel agency can list travel tips. A health maintenance organization can offer general tips on how to eat well and maintain a healthy body. A wine seller can provide articles educating shoppers in areas of wine tasting and selection. An airline company can display up-to-date flight and booking information. A food company can display recipes involving the food items sold by the company or offer

information on the nutritional values of those food items.

2. Bring uniqueness to the site

The Web site communicates your company's image and helps increase awareness of the company and its products or services. The site may offer a special online service, sell a special product, or contain a special feature that other sites do not have. The site may also stand out in terms of its presentation and design. Net users like to tell one another about special sites.

3. Publicize your Web site

In general, you should promote the Web site both outside your company and within. To promote your Web site, you can:

- Announce your company's Web site to appropriate commercial sites, mailing lists and newsgroups which accept commercial announcements (see, for example, the Promote-It site at www.itools.com/promote-it/promote-it);
- Register your site with as many search engines as possible;
- Select carefully the specific categories, keywords or key phrases that search engines use to locate the Web site;
- Pick an easy-to-remember domain name for easy promotion;
- Educate your staff about the site and its operation;
- Put your company's Web site address and email address on business cards, letterhead, print ads, television ads, press releases, brochures, and newsletters;
- Cross-link your site with other popular sites;
- Buy an ad on a popular online publication;

- Treat site promotion as an ongoing process.

Of course, if you do not want to do the site promotion yourself, you can always hire a Web promotion agency.

4. Avoid changing your URL or service provider

URL (Uniform Resource Locator) is the Web site address. A change in the URL or service provider can cause disruptions in your Internet business. Net users who have your old Web address will not be able to reach you. It can lead to loss of business and frustration for your customers. Previous URL information on your company business materials will need correction. Links to your company established previously throughout the Net will fail to work. Some Net users may think the company is no longer in business. IMPORTANT: If a change in the URL or service provider has to be made, make arrangements so Net users can be re-routed to your new site.

C ■ Web Site Construction

A number of things have to be considered in setting up and managing a Web site.

1. Domain Name Registration

Web sites are identified by their individual domain names on the Internet. Online services for domain name registration are available from the Web site of InterNIC at www.internic.net. The InterNIC is a collaborative activity between AT&T, Network Solutions, Inc. and the National Science Foundation. The registration services are sponsored by Network Solutions, Inc. This site also provides information about directory of directories, white-page services and publicly available databases. The directory and database services are managed by AT&T.

2. Content and Design

The actual content and design will depend on what you want the site to show and communicate, the company image you want to present, and the business functions you want the site to perform. These, in turn, are partly influenced by the type of business your company is in and the type of audience your company desires to reach. A Web site can contain many individual pages, with the front page being called the home page. A number of basic things are often given on Web pages:

- Company name and a table of contents, with proper links, at the top of your home page
- Company background
- Information about the company's products or services
- What is new
- Simple instructions on how interested customers can respond, with contact information (postal address, phone number, fax number, and email address)
- Title and Web address for each page

Many other things can be included in a customized Web site. The site can provide links to other interesting sites, with relevant descriptions. To add some entertaining features to your site, you may want to make your site interactive and take advantage of multimedia capabilities, such as interactive games, slide shows, music, and video clips. Interactive forms can be designed as part of an online ordering system. In addition to forms, you may play with colors, text styles, window bars, and graphics.

Nonetheless, there should be good coordination in the use of text styles, colors, graphics, and other design elements. The Web site should look professional and its presentation should match your business image. You should design your site

to allow easy navigation within the site. Do not crowd too much information on one page. Too much text and scrolling is not desirable. Graphics can be appealing but should not be overused. In addition, although cute animation may be fun, it does not by itself make the site visitor click on the product/service order button. A common complaint from Web users is that it can take very long to download pages. Slow loading can wear out the patience of many Web visitors. If your company serves many customers using languages other than English, you may want to make your Web site multilingual. You can build multiple sets of your Web pages, with each set being tailored to fit a specific group or target audience.

Finally, you should make sure all information given at the Web site is accurate. Routine self-testing of your site can be conducted by visiting and navigating within it yourself. A Web site containing programming errors gives a poor market image to customers about your company. Indeed, by spending time as a Web surfer yourself, you can also study and learn from other Web sites so that you may improve your own site.

3. Housing the Web site

Renting or Buying? You need to decide whether your company should have an in-house Web server or rent computer space from an Internet service provider. Building a Web site in-house can be expensive, involving high start-up costs. However, you will have full control over the use of the server, and this can be attractive if you will need frequent changes to your Web pages. On the other hand, renting is much cheaper, though you will have to pay a fee to the service provider. In this case, you will need to rely on the operation and security of the provider's server. If sensitive data are involved, you may prefer to house the server at your company and have the data under your secure supervision.

How do you pick an Internet service provider? In addition to the service charge, there are several factors to be considered. First, you should choose a provider with stable and reliable connection service. Interruptions in service can cause loss of business for your company. Ask how long the provider has been in business. For service reliability, check with some of the provider's service users. Second, you should have information on the provider's network connection speed. Is it slow? Third, you should ask about network security. What kinds of security measures has the provider set up? Is the server secure? Fourth, you should select a provider with local phone access. Fifth, you should ask about other services and support supplied by the Internet provider. For example, does the provider monitor traffic at your Web site and give you traffic reports? Does the provider's network include database capability? How frequently can you update your Web pages? How much assistance will the provider give you in publicizing your site? Does the provider offer customer support 24 hours a day?

D. Repeat Visit Generation

An important element of Web advertising is that you must make the customer come to your Web site by some conscious effort, either by typing the

URL or choosing the link to your company. To create a site that attracts repeat traffic will be even more demanding. The basic goal is to make the Web site interesting enough for visitors to return. Various methods have been used, and they include:

- Site content updated with fresh information regularly.
- Offer entertaining features such as jokes, cartoons, interesting stories, artwork, and animation, and change them periodically.
- Use interactive games, contests, give-aways, and discounts to entice repeat visitors.
- Provide unique customer services that attract users, such as the event and gift reminder offered by the Godiva Chocolate site (www.godiva.com).
- Create an online community by adding chat rooms, bulletin boards, and discussion forums on interesting topics related to your company products or services.

It should be noted that heavier Web traffic does not necessarily generate more business. It is still important that your company sells good products or services.

V. Future Growth Of Online Commerce



A. Barriers to Internet Commerce

Internet commerce has shown immense growth over the past few years. Nonetheless, potential barriers to growth exist. Rosalind Resnick and Dave Taylor in their book, *The Internet Business Guide*, identify several factors that are essential for the continued growth of online commerce.

1. Access Availability

The potential growth in Internet commerce will ultimately depend on the population size of Net users. Although more and more people are willing to pay for the access, public access is still quite limited and far from universal. Over time, lower costs may make Internet access more affordable to the general public and help broaden the access. The development of the Web TV technology may be a significant step to widen Internet access by providing easy access from the living rooms of millions of households.

2. Bandwidth

Connection speed is an important issue for Net users. Increasingly more Web sites incorporate graphics and multimedia features extensively into their Web pages to make them more stylish and attractive. However, these sites demand higher bandwidth and faster Internet connections than what the modems of most current users can handle. Advances in telecommunications technology in the future should help alleviate such a problem.

3. Efficiency in Locating Information

Given that the Internet is extremely decentralized, users will find it more and more difficult to locate relevant Web sites and obtain specific information as the Web continues to grow

at an explosive rate. It is highly desirable that some simple and efficient way to find information on the Net becomes available for Net users.

4. Security

How to allow secure transactions on the Internet may be the most pressing problem to be solved for online commerce. If online transactions are not secure, shoppers will avoid making purchases on the Internet. Hence, improving security on the Internet is vital for the popularity and growth potential of Internet commerce. Possible solutions to the security problem will be discussed later.

B. Satisfying Customer Needs

Although it is important to overcome the various barriers noted earlier, Internet commerce should ultimately be a consumer-driven market. The potential success and growth of Internet commerce will depend critically on how much it can meet the customer's needs in various respects.

1. Lower prices

Because business applications of the Net may produce cost savings, these cost savings can be passed on to consumers as lower prices. In fact, some companies have already provided discounts for purchases made at their Web sites.

2. Better selection

A natural advantage of the Net is its ability to store an immense volume of information. In fact, information can be added or changed with little cost. Amazon.com, Inc., a Seattle-based online bookstore, exploits such advantage and allows shoppers to browse through an impressively huge collection of books (about 2.5 million titles). A searchable database allows shoppers at the Web site to locate special books quickly. This contrasts

with a regular bookstore, in which shoppers review and choose from a relatively limited collection of books. Following the same idea, a music retail store can substantially broaden its selection of titles without increasing inventory (for example, the Music Boulevard site, www.musicblvd.com of the New York City-based N2K Inc., an online music entertainment company).

3. Better service

Internet offers an extra channel for customers to communicate with the company directly. The Web site, which operates 24 hours a day, 7 days a week, can be a useful tool for improving customer service and support. Feedback mechanisms for customers' inquiries, complaints, comments, and suggestions should be established. Online order tracking can be provided, informing customers about the status of their orders. FAQs can be used to better educate customers about the use of products. Other special services such as gift reminder and replacement order reminder may also be arranged.

4. More convenient

Net users can shop and make purchases online through their computers at home any time of the day, without being restricted by the regular office hours of merchants. Such flexibility is particularly attractive to users who are busy with their jobs and families. Moreover, with products and services delivered over the Internet, the whole transaction can be completed online with immediate order fulfillment. The shopper can enjoy instant gratification. To assure customer satisfaction, online companies should offer a good return policy and a good warranty.

5. Better shopping experience

Since many companies are providing entertaining features and a lot of useful

information at their Web sites, the shopping experience is enjoyable and educating.

C ■ Methods to Secure Transactions

The security of credit card information has been the main concern of Internet shoppers. Without taking extra security measures, the flow of data from the shopper to the merchant cannot be assumed to be secure. Third parties may gain access to the data when they are transmitted across the Internet.

The importance of payment security has been underscored by Rich Landers of the InterNIC Information and Education Services, who stresses in an article (December 1996) on the future of electronic commerce that making shoppers feel secure to carry out payment transactions over the Web should be "the top priority for anyone who is considering a business future on the Internet." This author reviews several sophisticated payment solutions, which are currently under experiment, to secure financial transactions on the Internet. Before discussing those advanced secure payment solutions, it should be noted that there are procedures and/or setups which the company can adopt to secure Internet transactions.

1. A Membership System

The company can implement a membership system to make transactions convenient and secure for the shopper. In setting up a membership account with the company, the shopper provides the credit card information during registration only. The shopper can then make purchases by simply choosing the credit card as the method of payment. Under the membership system, the company will obtain an extensive database about the customers. A strong policy on data confidentiality is necessary. All customer data

should be stored on a computer not connected to the Net

2. A Two-Step Order Operation

The customer can be given an option to pay by check. When the customer places the order online, he or she is provided with an order number in an order confirmation message. The customer then sends the payment to the company via mail, and the order will be filled after the check has been received and cleared. A similar operation may apply also to credit card payments. The customer places the order on the Net, but sends credit card information via fax or phone.

3. Secure Browsers and Servers

This method relies on the use of encryption technology (detailed information about the RSA encryption technique is available from the Web site at www.rsa.com). When the customer submits an order at the Web site, the merchant's server sends to the customer's browser a specific encryption code, which is used to encrypt the order information. The browser then transmits the encrypted order to the merchant's server. The order information is then moved to a computer off-line from the Net before decrypting the order information. To enhance security, the company can also choose to store the data in an encrypted format.



D. Advanced Secure Payment Solutions

1. Secure credit card

- First Virtual Credits (www.fv.com). First Virtual Holdings Incorporated in San Diego, CA, is pioneering Internet credits through a process-based payment processing system. The Internet shopper provides First Virtual with his/her credit card number to set up an account. The credit card information is stored on a secure computer in a bank data center. The shopper is issued a VirtuaIPIN, a number which the shopper can use to make purchases on the Net. As added security, every purchase the shopper makes is confirmed via email.
- CyberCash Internet Wallet (www.cybercash.com). CyberCash, [Inc. in](#) Reston, VA, provides a secure solution to make payments on the Net using an encryption-based credit card system. To obtain the wallet for shopping, the shopper accesses CyberCash's server and downloads the CyberCash software for free. The credit card information is encrypted and stored on the shopper's computer. When an online purchase is made, the merchant will send the Web transaction to CyberCash, which acts as a gateway decrypting the credit card number and routing the transaction information to the secure credit card networks. CyberCash announced in July 1997 that its services would support the Secure Electronic Transaction (SET) protocol, currently under development as a joint venture between IBM, Microsoft, MasterCard and Visa. The SET aims to offer highly encrypted communication between merchants, card members, and card issuers.

2. Electronic cash

- DigiCash's Electronic Cash (www.digicash.com). An Amsterdam-based company, DigiCash, devises another secure payment system based on the idea of digital signatures. The shopper deposits funds into a special bank account, and the bank supplies the shopper with a unique serial number (a digital signature) to be stored as an electronic currency file on the shopper's hard drive. When the shopper makes a purchase, the serial number is transferred to the merchant's computer, and the issuing bank then verifies that the digital signature is authentic.

3. Electronic check

- NetChex's electronic check (www.netchex.com). NetChex, which represents for Netl Incorporated, advocates the use of another secure payment system. NetChex acts as a broker in the payment process between the bank accounts of the shopper and the merchant. The shopper registers his/her bank account with NetChex. Using the NetChex system, the shopper can generate electronic checks on his/her

computer. These electronic checks can be transmitted over the Internet when the shopper makes a purchase. Before completing the transaction, authenticity verification of the electronic check by NetChex is required. NetChex will later confirm the transaction and the payment amount with the user.

4. Microchip card

- Mondex's smart card (www.mondex.com). Mondex International Limited offers a payment device that can be used for Internet commerce. The Mondex card is a smart card, a wallet-sized plastic card with a microchip embedded in it. The microchip is programmed as an electronic purse. The cardholder can load money from a bank account onto the card through a new generation of cash dispensers and telephones. Since money is stored digitally, it can be transferred over a telephone line and used for Internet transactions. To prevent its unauthorized use, the card owner can lock the electronic purse using a personal code. Mondex cards can store different currencies at the same time.

V1. Learning From Existing Web Sites



A. Examples of Successful Web Sites

Checking out interesting sites across the Net can be rewarding. You may learn from visiting your competitors on the Net. You may obtain new business ideas and keep current with new business trends on the Net. You may get hints about how to improve your own Web site. You may understand better what business strategies work and what products or services sell on the Net. The following contains some examples of effective business Web sites:

- 1-800-FLOWERS, Inc. (www.1800flowers.com) is the world's largest florist, with 130 flower shops either company-owned or franchised and 2,500 flower shops as partners. Net users can view a wide selection of floral and gift products online and learn about floral care and handling, decorating with flowers, and floral and gift giving trends. They can also participate in the site's bulletin boards, ongoing contests, and the Gift Reminder Program. 1-800-FLOWERS guarantees the freshness of its floral arrangements for a full week.
- Amazon.com, Inc. (www.amazon.com) is an online superstore for books. Net users can access a huge electronic catalog of books and search with ease by author, title, subject, and keyword. There are about 2.5 million titles in total, with 1 million of them hard-to-find, out-of-print books. Everyday discounts are offered. The ordered book can be giftwrapped with a personal note and shipped around the world. The online Amazon.Com Journal features author interviews, excerpts, and book review articles. A shopper can read book reviews by other shoppers or submit one. Personal notification service for new releases of favorite authors and personal review service for books in specific areas of interest are both available for free. The company relays customer orders to suppliers for shipment and thus does not have to keep any inventory.
- Dell Computer Corporation (www.dell.com) offers very efficient online services for shoppers. The Web site is extensive and well-designed; it includes a lot of online features and functions. Associated with the Online Store feature, the site details information concerning product specification, order placement, security, order fulfillment, shipping options, and payment options. Customers can obtain order status information on unfulfilled orders. The Online Communications Center at the site handles technical support, customer service, customer feedback, and product information requests.
- Federal Express Corp. (www.fedex.com) provides a special online tracking service. A user can check the current status of a specific package in the FedEx system. If the package has been delivered, the user can know who signed for it. In addition, the user visiting the site can get a quote and find a dropoff location.
- Hot Hot Hot (www.hot.presence.com) is a Pasadena-based hot sauce shop. Its Web site provides a searchable catalog with a wide selection of special hot sauces. For convenience, sauces are organized by the heat level (medium, hot, extra hot or fiery), region (9 different regions), ingredients (no salt, no sugar or all natural), and name. Much information on every sauce, including ingredients, is provided to educate shoppers. A featured sauce of the month is displayed. This local hot sauce shop now serves customers all over the world.
- Virtual Vineyards (www.virtualvin.com) is a specialty store, featuring a selection of

distinctive wine and food. Peter Granoff, a world renowned wine expert, is a cofounder of the business. The site not only sells wine but also gives prospective customers in-depth information about the wines being offered and the people who made them. On the site you can find detailed wine descriptions, wine recommendation given by Peter personally, tasting charts and notes, articles from Wine & Spirits magazine, recipes for meals to go with the wines featured, and gift ideas.

B. Other Interesting Business Web Sites

1. Selling Computer or Internet-Related Products and Services

- Micro Warehouse, Inc. (www.warehouse.com) is a specialty catalog retailer and direct marketer of brand-name, computer-related products.
- Internet Distribution Services, Inc. (www.service.com) offers Web development facilities, including concept and market analysis, graphic design, document/data translation, hardware/software installation, and hosting and server management.

2. Selling Advertising Spots

- Wired Digital, Inc. (www.hotwired.com) presents Wired Magazine online.
- Classifieds2000, Inc. (www.classifieds2000.com) provides a giant marketplace for classified ads on the Web.
- Rent Net (rent.net), a division of CUC International, creates a comprehensive apartment guide on the Internet. Its Web site provides an easy-to-use database of unfurnished apartments, temporary furnished suites, international rentals, self-storage facilities, and relocation-related services in over 1,500 cities.

- Tripod, Inc. (www.tripod.com) builds and maintains a membership community online. Its Web site features content and services on topics interesting to young adults.

3. Providing Middleman Service

- AutoWeb Interactive (www.autoweb.com), an online auto superstore, puts together buyers for new or used cars with a network of many car dealers. Shoppers can visit the virtual lot of every AutoWeb dealer, browse the digital brochures for new cars, arrange delivery of a car to your home or office for a test drive, use a free loan calculator to compute your payment schedule, access AutoWeb Financing for credit approval and financing arrangements, and arrange delivery of your new car to your home or office.

4. Selling Financial Services

- E*Trade Securities, Inc. (www.etrade.com) is a provider of low-cost online investing services, including stock and options trading. The site also offers access to company research, business news and other information services online.
- Quote.com, Inc. (www.quote.com) provides quality financial market data to Net users. They include stock quotes, market indices, real-time business news, earnings forecasts and reports, market analysis and commentary, company profiles, and balance sheet data.

5. Ticketing and Reservation Services

- TicketWeb (www.ticketweb.com) provides nationwide low-cost ticketing service for selling advance tickets. Its technology allows facility operators and event promotion companies to administer their own ticket selling operations over the Internet at the TicketWeb site.

- MovieFone, Inc. (www.movielink.com) manages the MovieLink Web site, at which users can get movie times and reserve discount movie tickets at their local theaters.

6. Operating a Cybermall

- Internet Mall, Inc. (www.internet-mall.com) manages one of the largest online shopping malls, which accommodates virtual stores of many categories.
- Branch Internet Services, Inc. (www.branchmail.com) also organizes a huge online shopping mall.

7. Providing Travel-Related Services

- The Travelocity site (www.travelocity.com), sponsored by The SABRE Group, Inc., offers comprehensive and convenient travel services to Net users, including airline and other travel reservations, travel merchandise, information about destinations and points of interests, restaurant reviews, travel tips, search for low fares, and special offers. Through a bulletin board, visitors can exchange travel tips and participate in online discussions with other Net users. In addition, the site provides a free service enabling users to check if a flight is on time.

8. Expanding Catalog Business

- Lands' End, Inc. (www.landsend.com), a clothing mail-order company, uses the Web to expand business and reduce printing and mailing costs associated with printed catalog.

Offering Online Training

- Cubic Science, Inc. (www.satmath.com) provides interactive tutorials and simulated tests to users, who are preparing for the SAT Math Test.

10. Selling Artworks and Antiques

- A.B. Franklin Art Gallery, Inc. (www.franklin-art.com) exhibits and sells artworks from many artists.
- The Maine Antique Digest site (www.maineantiquedigest.com) is the home of an interesting electronic magazine about the art and antiques markets. In addition to articles, book reviews, and catalogs, the site contains a directory of many gallery advertisers. Calendar information on antique shows and auctions are displayed. Net users can also check a price database to see what various items have sold for in recent auctions. An interactive forum exists for users to post wants and queries.

11. Operating a Specialty Store

- Godiva Chocolatier, Inc. (www.godiva.com) sells specialty chocolates. In addition to a wonderful online catalog, the Web site provides a special gift reminder service. If you register for this free service, you will automatically be reminded of your most important dates (birthdays, graduations, weddings, and anniversaries) through email.
- Alfredo Gourmet (www.alfredogourmet.com) provides online gourmet shopping service and gathers a quality collection of coffee, tea, and fiery food for the shopper to choose from. The site gives interesting information to help shoppers learn about coffee, tea, and salsa and make their own choice. Gift service is available.
- The Stash Tea Company (www.stashtea.com) sells a complete line of specialty teas: traditional black teas, flavored and spiced teas, herbal teas, green teas, and specialty iced teas. Visitors of the Web site can find educational information, such as the history of tea, the history and design of teapots, tea



recipes, and tea related quotations. The Web site is multilingual; users can choose Dutch, French, German, Greek, Japanese, Portuguese and Spanish.

- Lobster Direct (www.novaweb.com/lobster) sells and delivers fresh Nova Scotia lobster to your home or office via FedEx Priority One overnight. Special recipes are exhibited, and tips for cracking and eating a Nova Scotia hardshell lobster are given. You can also enjoy the monthly email newsletter, which has been well-received among Net users.

12. Servicing a Local, Concentrated Market of Net Users

- Waiters On Wheels, Inc. (www.waitersonwheels.com) provides a special delivery service in major cities of California and Washington, through which meals from your favorite restaurants will be picked up and delivered to your home or office in about an hour.
- Peapod (www.peapod.com), created by Peapod, Inc., offers online grocery shopping and delivery service.
- PC Foods (www.pcfoods.com), sponsored by PC Foods, Inc., also offers online grocery shopping and delivery service.

13. Servicing a Specific Ethnic Community

- SINANET (www.sinanet.com), operated by SINANET, Inc., provides internet media resources for Chinese people all over the world.
- 99 Ranch Market (www.99ranch.com), managed by TAWA Supermarket, Inc., offers Net users online grocery shopping services for a wide variety of oriental foods.
- HispanStar (hispanstar.com), managed by Hispanic Business Inc., is the home of the

Hispanic Business magazine. The site offers research information on the U.S. Hispanic business market, Spanish-language media, and Hispanic demographics. A national resume referral

- Panamericana Travel System (www.panamericana.com), a major hispanic travel agency, provides information about rates and tour packages online.

C ■ Government Web Sites Useful for Businesses

1. The U.S. Small Business Administration (SBA)

Its Web site (www.sba.gov) is an important source of information for entrepreneurs and small business owners. Users can obtain advice and tips on how to start, finance and expand their businesses. The site contains information about SBA's programs of financial assistance and other financial resources. Links to other sites providing useful resources for small business are given.

2. TradePort Partners, LLC

Its Web site (www.tradeport.org), supported by the Bay Area Economic Forum and the Los Angeles Area Chamber of Commerce, offers extensive trade information, international trade leads, and company databases. Users can communicate with trade experts, obtain information regarding how to export and how to obtain financing, find out information about trade shows and trade-related events, and conduct extensive market and industry research.

3. The U.S. Department of Commerce

Its Web site (www.doc.gov) provides systematic, convenient links to services and organizations related to the Commerce Department.

Sector	Table 1. U.S. Internet Commerce Revenues (Billions)						2002
	1997	1998	1999	2000	2001		
Manufacturing (durable)	3	7	16	37	60	99	
Manufacturing (nondurable)	0	1	1	4	8	17	
Wholesale and business retail	2	6	18	48	89	168	
Utilities	2	2	3	5	7	10	
Transportation	0	0	0	0	0		
Services	1	1	3	11	19	33	
Total	8	17	41	105	183	327	

Source. Forrester Research, Inc. (1997)

Table 2. Internet User Growth (Millions)

	1995	1996	1997	1998	1999	2000
Worldwide	8.5	19.0	34.0	67.0	102.0	142.0
U. S.	5.6	12.5	21.0	38.0	59.0	71.0

Source: e-land Inc. (1996)