“In addition to the convergence of media and customer change and information delivery level, we are seeing a fundamental change in the average consumer’s lifestyle delivered by the acceptance of technology. This change has been driven first by the technologically enabled, then the early adapters and gradually the consuming public. Cellular phones are a great example. Ten years ago, most cellular phones were limited to CEOs or super sales reps. Today, most are not sold to businesspeople, but to family members. Proliferation of cellular phones has become so great that many areas are being forced to add additional area codes to handle the volume of numbers and activity. Fax machines are another example. As little as five years ago, fax machines were primarily found in offices. Now the fastest growing segment is for home use. PC sales have now overtaken TVs in dollars sold each year. We, as a society, are gradually becoming more technically enabled and less phobic of new technology.” (Brady, Forrest, and Mizerski 1997, 304–305)

Electronic commerce cannot function without electronic equipment, networks, or transaction systems. As was discussed previously, though, consumers and businesspeople do not purchase tools or systems of commerce. Who wants to buy a scanner or upgrade megabytes for their computer’s memory? These devices are expensive and sometimes of limited utility. However, the consumer or business does wish to purchase technology that will improve the efficiency or effectiveness of the designated activity. In most cases, information interactivity delivers an overarching sense of customer gratification. What defines gratification? The customer defines
gratification, perhaps in appreciation of speed, convenience, accuracy, and even accessibility such as actually logging on without getting a busy signal or a server malfunction. Over the last twenty years, great strides have been made in communications and database capabilities so that the technology is available to most persons and businesses, even in many diverse commercial situations. The purposes and operations of popular electronic marketing resources will be reviewed and discussed here so that you will have a foundation in personal and business electronic communications.

With any technological advance there are advantages and disadvantages with its diffusion in the marketplace. The tools of electronic marketing are no different; the purposes and situations that justify the largest disadvantage, that of cost of the devices and systems, will be reviewed as well. Usually the justification of spending money and time on electronic resources is a betterment in terms of efficiency and effectiveness; however, cost/benefit analysis studies are wise practices to confirm the marketer’s premises. As more time passes in technology maturation, the best is yet to come in the development of speedier, more accurate, and more convenient marketing tools.

The Electronics of E-Commerce

Electronic marketing resources have proliferated over the last ten years, and most notably, the reach for most marketers has been inward from communications to mass markets to markets of one, as in individual purchasers or prospects. If this textbook were written in the fifties, sixties, seventies, eighties, or even in the early nineties, electronic marketing resources would have been defined and utilized in media messages using television, radio, telephone, and facsimile delivery.
For this discussion, though, the focus on electronic marketing resources will be broadened (or perhaps narrowed to markets of one) to include other essential electronic tools that marketers can use for communications, segmentation, or memory enhancements of customer preferences.

Besides the previously mentioned tools, e-commerce resources now encompass videography, CD-ROM, interactive kiosks, pagers, optical scanners at checkout, low-powered frequency modulation (FM) transmitters for in-store transmissions, and smart cards for recording transactions. However, in facilitating e-commerce activities, this review will be limited to computer and computer-based technologies. The power of the communications spectrum runs throughout electronic marketing tools, and interactivity is the capability that provides the strongest link between the vendor and its customer because of the gratification factor of speed, accuracy, or convenience. Much of the electronic tools combine computing abilities with telecommunications’ reach. More than message delivery to a targeted audience, these resources allow direct, interactive communications in a manner increasingly comfortable and convenient to the customer or prospect. The hallmark of today’s interactive electronic marketing tools is the combination of direct, targeted communications with instantaneous response. If you want to dig deeper into interactive marketing tools, you might wish to read a comprehensive book by William Martin, *Interactive Marketing*. (1994) When today’s electronic marketing tools are spoken of, exactly which resources have become so valuable to the marketer?

**The Data Warehouse**

When you look at the Web, most of you probably see a transient medium of communication,
where the usefulness of the site seems to be embodied in its graphical interface. This, for the first few years, was the driving force of good Web site development. That is, how can a site engage the viewer most effectively? The Web was viewed as the next paradigm for distribution of marketing communications, akin to television, radio, and other electronic distribution methods. The astute marketer has now come to view the Web in an entirely different way. Specifically, traditional media have become viewed as read-only or push mechanisms in that the information is pushed one way—toward the user. The Web is a truly interactive way of captivating the audience. The viewer or listener has now become the participant in the two-way dialogue. As the dialogue has intensified, it has become incumbent upon you as marketer to find new ways of harnessing in real time. Enter a corporate database. This is actually the traditional medium of the Information Systems (IS) departments of average to large firms. However, the methods of capture and delivery of information have changed dramatically. The Web introduced a new component of the otherwise familiar frame of data processing: instantaneous, massive volumes of incoming and outgoing data. Rather than having a Web site contain stagnant marketing information, the brilliant, successful multipurpose sites today combine effective marketing messages with truly impressive data-gathering systems. In many cases, the participants are unaware they are part of an intensive fight for useful information. How many of you have visited sites like Pepsi (www.pepsi.com), which boasts impressive graphics, and have not been impressed? More subtly, how many of you have visited this site and are aware that even as you navigate the site, statistics are being collected about you to add to Pepsi’s electronic warehouse of consumer information? Your browsers are transmitting unique information about you, including e-mail addresses, your machine or
Thus, a new technology has arisen in recent years to address the disparities between the marketer’s effort to maintain a business (operation) and the marketer’s effort in forecasting the future direction of the business (corporate strategy that includes the marketing strategy). This technology leverages the vast quantities of information gleaned over many years and many transactions to be placed in a massive repository, with the express purpose of garnering this data for current and historical trend and analysis. The technology is called data warehousing and enterprise reporting, and with this, the database of the past has been put into new service. From a marketing strategy, this makes great sense because past consumer behavior generally predicts future consumer behavior particularly in attitudes of brand preferences and shopping purchases. These predictors are not solely to the merchant’s benefit. Equally important has become the exchange of the vital statistics of the transaction with the participant. Many of you have probably been to sites such as Amazon.com. Here you not only find your book of interest at a reasonable price, but as consumers, you enhance your shopping experience and decision processes. For the designers of this site, the site yields another important piece of information: What segment or segments of people, profiled from demographic, psychographic, or behavioristic characteristics, selected the same book for purchase. It is a direct result of new database technology, the data warehouse. An example is Oracle Corporation’s new product, Oracle 8i; it is geared specifically toward Internet-based data warehouses. This technology has enabled
Amazon.com, Yahoo!, and other Internet-based merchants to provide sites capable of sifting through endless quantities of information and to then return participant data that bear directly on his online experiences. This forthright effort by the vendors to engage their customers in a shopping conversation has helped to create a new era of soaring stock market capitalizations, where net worth is valued not by profit or near-term potential but by the exorbitant potential value of the Internet itself.

**Email, a Hardworking Messenger**

E-mail has become the most prevalent communications tool for exchanging messages at the local, national, or international scope. Fueling its growth has been the growing popularity of the general audience Internet services such as America Online, Prodigy, CompuServe, MCI, GTE, and other national and local IP services; AOL has expanded to serve more than fourteen million members, and new entrants appear every year. Recently low-to-no cost e-mail providers have included Yahoo!, Hotmail (now a Microsoft property), AltaVista e-mail, and freenets in all sizes and regions. E-mail software packages might include educational-issued products such as Pine or Eudora or commercial products such as MS Mail, cc:Mail, Notes Mail, or Vines Mail. E-mail is becoming a standard feature for most IP services and search engines since once the connections are established, communications software is not a problem. E-mail emerged from the research and educational communities, and some educational facilities still use a version called PINE that is text based (no graphics and a one-color display). While not very pretty when compared to the **graphical user interfaces (GUI)** of many browsers, e-mail is a virtual workhorse, much as a
rotary telephone served its public for decades. Companies have embraced e-mail systems because
e-mail is a low-cost messaging system that is very flexible for reaching internal individuals,
groups, or company-wide audiences. It is also well suited for external communications such as
links to customers, business partners, and prospects. E-mail provides efficient communications
in building mailing lists; thus, a single e-mail message can be sent to many addresses at one time.
These lists can be private, monitored by a list administrator, or public, allowing individuals to
add their addresses by inquiring to the list administrator. List administrators, also called
moderators, monitor the submissions to the list (often called listservs or discussion groups) and
decide if messages are appropriate and of interest to the list members. Some lists are not
moderated, which means messages are posted to the list without supervision. Lists that are both
moderated and not moderated can contain excellent information, but the marketer should take
caution in investigating the source of the transmission to be sure that the information is authentic
and accurate. E-mail can be anonymous, leaving the receiver unsure of the origin of the
information. The receiver should therefore develop a rapport with the sender before any great
decisions or transactions are initiated. You never know who is on the other end of the line.

E-mail is a quick response vehicle particularly suited for acknowledging the receipt of the
sales order or for responding to an information request. For example, the consumer might access a
commercial site such as CDnow (www.cdnow.com) to purchase several compact discs. The order
would activate an automatic reply, possibly thanking the customer for the purchase and giving an
estimated delivery date. Perhaps a prospect would have a question about the method of
payment, and an automated message would list the credit cards accepted, terms governing personal checks, or the acceptance of money orders. Many customers ask about the same information, so a predetermined list of automated responses, those FAQs discussed earlier, can save the call center and the customer time and energy.

Where does e-mail work? The largest category of the GVU User Survey respondents report having one e-mail account that they access from home (25 percent). Overall, 42 percent of interviewees report having one e-mail account, while 56 percent report having more than one. Europeans are more likely than U.S. users to have multiple accounts and to access them from multiple places (30 percent Europe versus 20 percent U.S.). Europeans are also more likely to access their accounts only from work, regardless of how many they have; this might be a powerful fact for business-to-business marketers selling overseas. Older respondents are more likely to access accounts from home (65 percent). They are also more likely to have only a single account (74 percent). (GVU Eighth WWW User Survey 1997)

What a difference a single year makes. An enlightening comparison is outlined in the following table from the 1997 to the 1998 GVU survey on what respondents considered indispensable technology. The top six categories of indispensable technology are:

<table>
<thead>
<tr>
<th></th>
<th>GVU 9 survey</th>
<th>GVU 8 survey</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail</td>
<td>93.3</td>
<td>84.3</td>
<td>+ 9.0</td>
</tr>
<tr>
<td>WWW</td>
<td>90.6</td>
<td>88.7</td>
<td>+ 1.9</td>
</tr>
<tr>
<td></td>
<td>29.7</td>
<td>21.6</td>
<td>+ 8.1</td>
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<td>------------</td>
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</tr>
<tr>
<td>Java/Java Script</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chat</td>
<td>23.9</td>
<td>22.3</td>
<td>+ 1.6</td>
</tr>
<tr>
<td>Audio</td>
<td>20.9</td>
<td>17.1</td>
<td>+ 3.8</td>
</tr>
<tr>
<td>Video</td>
<td>7.9</td>
<td>6.0</td>
<td>+ 1.9</td>
</tr>
</tbody>
</table>

E-mail is expected to continue to grow as more and more people gain access to the Internet. As was discussed in chapter 1, it has been speculated that e-mail is helping to revive the lost art of correspondence. Conversations on the telephone take little effort and little thought; once said, the communication is forgotten. However, with e-mail, conscious thought is required to express the message, so writing rather than speaking produces a more succinct statement. As well, the writer’s message is more tangible because it remains paper and ink or in the inbox of your e-mail program, rather than a fleeting voice transmission instantly lost. While e-mail messages may seem somewhat cyberspace, emotions can be expressed through the use of emoticons, which were discussed in chapter 7.

**The Internet’s Interconnections**

Most people in the business world are familiar with the Internet’s origins. As we discussed in chapter 5, historically the Internet began as a government defense project in the late sixties, and its purpose during these Cold War years was to create a network of interconnected computer networks, a redundant system that could route communications through and around computer
nodes. The government’s goal was to prevent interruption of telephone or satellite communications' links in case of nuclear war or natural disasters. This interconnection of computers was supervised by the government agency, DARPA, the Defense Advanced Research Projects Agency, and eventually was turned over to the National Science Foundation (NSF) for use by the research and education constituencies. From its simple beginnings of joining together telephone lines to four universities, the Internet has grown to the powerful and virtually ubiquitous network as it is known today. The public breakthrough that made the Web more user-friendly to navigate was the development and affordability of graphical browsers, the first of which was the Mosaic browser developed at the University of Illinois, and now represented by the various versions of Netscape Navigator and Internet Explorer. Since the commercialization of the Web component of the Internet, more people are signing on to the rich graphics and well composed text for their information and enjoyment. Various departments besides marketing are using the Web for public relations, recruitment, investor and stockholder information, keeping track of dealers or suppliers’ inventories or deliveries, or for research and developments. People are using the Internet at work and at home, usually via a personal computer. What is considered full access to the Internet? To be fully functional online, most experts recommend having access to the World Wide Web, Usenets and newsgroups, e-mail, as well as FTP (File Transfer Protocol) and Telnet connections. Probably the best software and communications access are those that the marketer’s customers, associates, and suppliers use. Access has little use if the sender and receiver are not compatible, and the marketer should investigate the compatibilities of his audiences.
The Wonders of the World Wide Web

Some people wonder how they survived without the assistance and companionship of the World Wide Web. The Web is a relatively new marketing and communications resource that was introduced to the public in 1991. Since that year, much intensity, innovation, and imagination have been directed toward creating entertaining and persuasive virtual presentations for companies, organizations, networks, and individuals. Some Web sites are all business, some are irreverent, some are informative, and some are humorous. The coming of color monitors, faster modems, sound cards with speakers, along with the sharpened expertise of Web designers and technicians has produced lists of new “cool” Web sites trumpeted by search engines on a daily or weekly basis. The leaps in technology have produced a marvelous communications vehicle unmatched by the traditional media vehicles. The features and innovations will continue to fascinate consumers and challenge marketers and designers for decades to come.

Within the last several years, commercial Web sites have come alive with the addition of motion and sound as well as the manipulation of colors and graphics. Earlier, these embellishments were virtually impossible to accomplish because of the limited capabilities of the average individual user’s hardware. Modems were unable to load the huge amounts of data required for recreating photographs or intricate illustrations; sound bites also demanded great amounts of RAM to reproduce the music, voices, or sound effects that add to the ambiance of the site. With faster modems, improved resolution of color monitors, and faster workstations with expanded memories, some Web sites now bear resemblance to mini motion pictures. In fact,
movie marketing frequently employs video clips of the coming attractions, typically only a few
seconds in length and somewhat rough in video detail. With the recent refinements in video
reproduction, Web sites have become more intriguing, persuasive, and motivating as a premier
marketing vehicle. As everyone now knows, full trailers have become more common on Web
sites, frequently combined with archival scenes and movie animatics; see the twenty-year graphic
improvements of the *Star Wars* movies re-released in 1997 (www.starwars.com).

With these embellishments, the Web has become considered a killer application among
marketing circles because of the visual, sound, and interaction capabilities. Web designers enjoy
working on Web sites; the developers often view their craft as fun and games. The combination of
elements is endless, and creativity is highly valued. Web sites are playing a larger role in
marketing communications programs, particularly in support of advertising and public relations
efforts. Its persuasion abilities, the dispersal of its wealth of information, and interactive ordering
efficiency are just now being deployed correctly by these Web designers in appropriate
scenarios. Perhaps you are interested in Web page design; there are many Web page design guides
and books available today. You can take classes or teach a class yourself on this subject. Check
with your local university or public library for instructional classes, or consult Web references
such as the Library of Congress (http://lcweb.loc.gov) HTML guides found at the address
http://lcweb.loc.gov/global/ for the hyperlinks, explore the Internet.

Another example of Web site enhancement that has improved information retrieval is
integrating a site search engine. Rather than click through every page on the site, the viewer can
use this consumer-friendly tool to speed up the information search, just as the viewer would type in key words (now the viewer can enter entire questions in hopes of retrieving an answer) on the Yahoo!, Lycos.Excite, Infoseek, or Excite search boxes. Ease of use is a motivating, possibly differentiating feature that sets one site apart from the others within the category, and as has been discussed, satisfying the individual is a constant effort for the electronic marketer.

**The Advantages and Disadvantages of a Web Presence**

From a marketing viewpoint, flexibility is a key feature of a product or company Web site. Production costs for the site can range in cost from a few hundred dollars to several million dollars, depending on the intricacies of the site, such as integrating a database of inventory, reporting performance, customer names, and purchasing habits; a fax-back or automated e-mail response system; or supporting international operations. Furthermore, the site can be updated as often as the marketer wishes in order to make such changes to prices, to current merchandise selections, to dealers, or for special promotions. Graphics can be replaced or enlarged in a matter of minutes; maps, menus, and **mouse overs** (those small text boxes containing descriptions or explanations that pop up as the mouse is moved over a hot spot) can be added or corrected equally fast. These maintenance activities can be performed by in-house staff, the position often titled the **Web master**, or by a communications supplier, such as an interactive advertising agency or specialty boutique. There also is flexibility in this maintenance issue since the time frame to update the site is a matter of an afternoon, perhaps no more than a forty-eight-hour wait. Traditional advertising vehicles can require weeks or months of production time, as in
filming and post-production of television commercials or in designing, producing, or printing elaborate sales brochures. Web revisions are completed almost instantaneously, which no other advertising tool can match except perhaps radio copy changes. Even changing the message on the fast-paced radio medium typically requires twenty-four hours to complete.

There is flexibility, as well, in how the customer or prospect can interact with the Web vehicle. The session can be entirely for information gathering, for retailer or dealer locations, for creating a cost estimate as with automobile or watercraft pricing, for e-mail communications with the company’s customer service staff, or for downloading site databases. The marketer can devise a Web site for prospects, current users, lapsed customers, suppliers, or sales outlets. Each of these user situations might require specialized information, and the marketer can cater to these audiences’ information needs. All the more reason for the marketer to know his audiences well.

You have most likely been subjected to the current technological advances in customer service via telephone. While these technologies have a definite impact on the ability of many businesses to stay competitive in the face of mounting challenges, nevertheless, it is questionable whether this technology has created a positive consumer experience. Some examples of this technology include transfer technology and hold statistics technology. Transfer technology is the method of employing touch-tone, or voice-recognition, menus to route calls to the appropriate department. While this is cost-effective compared to the traditional receptionist position, it places the burden on the customer in listening to, and responding to, lengthy prompts. Likewise, hold statistics technology allows the customer to know fairly precisely how
much patience she will be required to exhibit in order to get the attention she is requesting.

Flexibility runs neck and neck with the potential for an almost instantaneous response. Instantaneous response is the requirement for the shopper who chooses to help himself to a catalog of information. A Web site enables a user an almost guaranteed instantaneous collection of information from the FAQ site—the time it takes the user to print the desired information off of the site. These time and convenience features outdistance the typical telephone inquiry of being forced to use the audiotext menu of contacts and of being shuffled around by telephone transfers from department to department. With this annoying transfer technology, one would wonder if the marketing or customer service managers had ever tried to call into their own automated systems. Early in the textbook, the time pressures facing today’s consumers were discussed. The Web helps remedy these time pressures with such time savers as menu selections, FAQs, site search engines, and text e-mail boxes.

To many marketers, the global commerce potential is most attractive particularly with the emergence of free market economies throughout the world. Standards of living are moving upward, and middle class means, especially in South America and in Indochina, are growing for durable and packaged goods. Consumer expectations are flourishing in the former Soviet Bloc countries as technological entrepreneurs develop computer-based industries, notably in former Czechoslovakia and Hungary. The Russian and Chinese markets should be booming in the first decade of the twenty-first century. A good measure for the speed of Internet adoption is the number of Internet servers or host computers. In its latest survey, MIDS estimates there were
sixteen million Internet hosts worldwide in 1997, up from 12.8 million in 1996. (MIDS Study 1997) In the same breath as tapping into the international sales activity, the Web site is operational twenty-four hours, seven days a week. Customer or prospect interaction is most attractive for companies serving many consumer markets throughout various continents; the more universal the product or service, the better a twenty-four-hour operation schedule becomes.

**Internet Culture Blossoms**

As the Internet emerged and was nurtured by the academic and research sectors, the Internet was perhaps taken advantage of, maybe in concept only, with the expectation that using the Internet would always be a free commodity. The infrastructure was free, the transmissions were free, domain names were free, and registration of these names was also free. Factions considered the Internet a precious and fragile thing that should be protected. The federal government footed the bill, and that was fine with most Internet constituencies. There was an expectation that commercial interests had no place on the Internet, and if they were allowed to join, exploitation was certain. This was the stance through the seventies and eighties until the mid nineties when commercial use of the Internet began showing up frequently. This did not set well with the academics or special interest groups whose charter was to protect the Web from mismanagement. Should the Web be public or private, commercial or nonprofit, educational and research use only versus commercial usage? These are questions that were raised frequently, but for now it seems the market has relegated this argument to the sidelines of academic thought.
The Spread of Interface Culture

Steven Johnson, the editor-in-chief of FEED magazine, (www.feedmag.com) has documented an interesting phenomenon that is pervasive in our society today—the spread of interface culture. In his recent book, *Interface Culture: How New Technology Transforms the Way We Create and Communicate*, Johnson tackles the bringing together of technology and culture to demonstrate how the pervasive interfaces have earned a rightful place in our homes and workplaces. Certainly, these interfaces are descendant from the early Apple Macintosh and the following Windows graphical interfaces that were designed to use a symbol rather than confusing technical jargon or misunderstood international languages; these graphics might be compared to the much earlier international traffic symbols of Don’t Walk and Walk—the flat mannequins’ illustrations or open/closed palms with circles and slashes as appropriate. These graphic symbols were accompanied by color to be more attention-grabbing. Johnson demonstrates how interfaces—those buttons, graphics, and words on the screen through which information is controlled—influence not only our daily lives, but how these interfaces also track their roots to Victorian novels, early cinema, and even medieval urban planning.

As our machines are increasingly jacked into global networks of information, it becomes more and more difficult to imagine the dataspace at our fingertips, to picture all that complexity in our mind’s eye . . . representing all that information is going to require a new visual language, as complex and meaningful as the great metropolitan narratives of the nineteenth-century novel.

Aids such as Microsoft Bob, flying toasters, and the landscapes of video games tell our
digital society how to imagine self and how to get around in cyberspace’s unfamiliar realm.

Interfaces have spilled over, beyond computers and keyboards. Automobile dashes sport icons for headlights, windshield wipers, and cigarette lighters; more icons are sure to be used as products are marketed internationally. Production costs should be reduced by the use of graphical icons, and confusion by the user should also be reduced. You see this trend already with copier buttons, coffee maker buttons, VCR buttons, and any other electrical and nonelectrical products. Companies would be wise to consider GIS in simplifying their products’ operation. (Johnson 1997)

**Robot Shopping Agents**

Many of the same products are sold by different e-merchants throughout the Web; who is to say that the shopper is receiving the fairest price when making a purchase? Certainly comparing prices from site to site could ensure the lowest expenditure for the consumer, but the cost in time and effort might not be worthwhile, especially for inexpensive products, for instance priced at around $20. As popular products like movies, compact discs, and books fall under this price, they also fall into the purchaser’s shopping cart. These automatic shoppers are becoming a great convenience to the consumer, possibly an inconvenience or a sale-robbing threat to the e-merchant. How does this price sleuth work? Perhaps you are interested in purchasing a Parker Posey movie, *Party Girl*. You could visit the Web sites of Blockbuster, Columbia House, Amazon.com, Borders, Webmarket, or Reel.com. How many sites do you wish to shop before your time is worth less and less? There are search tools, however, that do the work for you. For
example, if you visited the site Jango, and typed in your request, Excite’s Jango product finder will commonly list up to the twelve lowest prices among several categories (laser/DVD or VHS, new or used) and the retailers’ online ordering systems that facilitate the purchase. Simply hitting the Buy button will complete the purchase, and the merchandise will be shipped to your credit card address.

Beware that not all sites will participate with **shopping robots (bots)**. Some Web sites simply slam the door on shopping bots and refuse to answer requests for Web pages that come from known bot sites. Therefore, some of the most popular retailers’ prices do not appear on the price comparison list, giving the appearance that Amazon.com or Borders is not competitive. Some of these popular retailers might try and confuse the robots by changing the Web site’s format or appearance, so the bot does not know where to look for the pricing information. Jason Olim, (founder of CDNow, one of the hottest music retailers on the Web) does not like the invasive bots, he routinely blocks them from the CDNow Web site to prevent them from taking his prices and stacking them up against his competitors. Why are merchants afraid? Some fear shopping agents will turn the Internet into a bargain basement or flea market where bottom dollar wins, and added value customer services built into retail Web sites will be less attractive to traffic. These sites wish to compete on factors other than price. “You don’t buy based on price alone. There are multiple aspects, like the convenience of having everything in one place,” says Vicky Harinarayan, a vice president of Junglee (www.junglee.com). Amazon.com has acquired this bargain-seeking site but has promised Junglee will not play favorites to its listings over book
sellers and other merchants’ information. Therefore, another decision that you the marketer must entertain is whether or not to participate with the shopping agent technology. The answer should come from your knowing your market and its shopping preferences for low prices, for convenience, for the social experience of visiting a physical location, or for the ultimate purchase. Customer marketing information should reign. (Quick 1998)

**The Extended Memory of CD-ROMs**

Marketers are finding more applications for these plastic, aluminum-coated discs than just for playing music. The CD-ROM, an acronym for compact disk read-only memory, has the ability to store huge amounts of data through the use of laser optics technology. Because they warehouse data optically, CD-ROMs have a much higher capacity than a three-and-a-half-inch or a five-and-a-quarter-inch computer disk that stores data magnetically. However, common CD-ROM drives, the devices used to access data information from CD-ROMs, are less flexible in storage and can only read information from the disk and not write to it. As a comparison, CD-ROMs can hold large amounts of data and are therefore popular for storing databases and multimedia materials. The most standard CD-ROM holds approximately 630 megabytes while a regular floppy disk holds approximately 1.44 megabytes. Quite a difference in capacity.

CD-ROMs and audio compact discs are almost identical in structure and data format. The difference between the two lies in the device used to read the data, either a CD-ROM player or a compact disc (CD) player. CD-ROM players are used almost exclusively as components or peripherals and access data much faster than the typical computer hard drive. While speed is
important to the marketer, the multimedia capabilities offer even greater benefits. Persuasive and entertaining marketing presentations are often placed on CD-ROMs to be played during field sales calls by company representatives; the graphics and sound quality are excellent. The equipment is compact and can be demonstrated in many settings. CD-ROMs have also become a transfer medium for software; data placed on a CD-ROM downloads more quickly than floppy disks or Internet retrieval. Marketing applications for CD-ROMs will become more popular as technology advances disks that can record, erase, update, or save data a number of times.

The Benefits of Database and Other Software Marketing Tools

Improving corporate memory has been the goal of database management applications for many years. Only now can small and large companies benefit from database management. Small firms might use Microsoft Access as their database application to keep a customer roster or to keep minimal inventory records, whereas, large companies have the opportunity to use several powerful database packages, such as Oracle Developer 2000 or Oracle Data Warehouse. The operative words are “It depends,” and it does. What are the company’s objectives or operations scope, the geography to be covered, the staff, or the budget for inventory or customer records management? Keeping extensive personnel records, maintaining national service records on fleet automobiles, and carrying detailed finance records is required for a successful usage of database management. There is a database management tool to fit the situation. Most times database applications are complex and dictate a level of expertise in assessing and integrating the application. Sometimes clients choose to hire an in-house software developer or engage an outside
software development company. Again, it depends on the situation of the client and sometimes on the length of the project. According to Oracle Corporation, a recent study by a top preeminent IT industry market research firm reported that enterprise data warehouse implementations tend to be multi-year projects. A data mart, on the other hand, is a scaled-down version of an enterprise data warehouse with implementation cycles of three to six months. Different database applications enable organizations to not only respond rapidly to changing business conditions, but also to help perfect emerging business opportunities for potential exploitation. Imagine a field representative, two thousand miles from the pharmaceutical headquarters, dialing with surgical accuracy into a pharmaceutical’s database from a physician’s office to check side effects and dangerous reactions of new drugs she recommends and to find answers to this physician’s questions. On real time. This certainly is an assistance to the doctor and demonstrates a competitive advantage over other pharmaceuticals companies. Creation of a simple database situation using Microsoft Access in a marketing application will be investigated further.

Front-End or Back-End Application?

You may hear the descriptions **front-end** or **back-end** devices. This refers to the arrangement of multiple software applications used in conjunction to build a certain system. Many developers use Lotus Notes as the front-end of a system, one that provides the client software and the client then inputs data, probably in marketing or IT/IS/MIS departments. The back-end might be composed of an Oracle system database located wherever the server is located-within the
company or routed to an outside supplier that might have superior, more flexible servers or other hardware systems. Many computer service companies, Citrix (www.citrix.com), for example, lease server usage to companies that do not require heavy-duty server operations. The databases created in the back-end application in a basic database, which probably would not require a sophisticated platform such as Oracle, can be combined to transactional or relationship databases, which would necessitate a more complex and powerful system. A simple example of a front-end–back-end combination is your own computer system and the server of your university or business. The front-end of your PC is your browser, probably either Netscape or Explorer; you input your information requests through the keyboard. The browser then contacts the university server who acts as the back-end to send the message or retrieve the information. To make matters more interesting, some applications can be used on the front-end or the back-end such as Lotus Notes; this too adds flexibility so that the software developer can choose the best applications for the system.

Communications Networks

Marketing communications are gravitating to service specialized audiences, no longer addressing mass audiences. It is more effective to create networks designed for employees, vendors, clients, the press, or other special interests as beneficial to the company. One network might be a company Intranet, a private access communications network designed most frequently for the employees within an organization. Think of the Intranet as an electronic in-house newsletter that addresses issues of interest to the company’s constituencies The Intranet can also be known as a
repository for work-in-progress so that project files can be accessed in meetings on-site and other
distant offices or by employees working at home, which is a convenience for clients and staff
alike. The Intranet can contain a plethora of information including company notices, work
schedules, or even classified ads offering kittens or puppies for sale. The company Intranet can
be a source of pride for the staff, but it does need frequent gardening to keep the site fresh and
timely. Someone within the company must volunteer or be assigned the job of keeper of the
Intranet because without someone taking responsibility, Intranet gardening is no one’s
responsibility. Usually this person assigned to the maintenance of the Intranet chooses a
password and can access the Intranet only through the password.

A second type of network is a company extranet, a private access communications
network that includes selected external suppliers and clients. This outside-the-company network
helps to coordinate projects or participants that are distant in geography or those who
infrequently are involved in the project. One company takes ownership of the project and assigns
passwords that can be activated to learn of the latest progress or problems on the assignment.

**Software Working Hand in Hand**

Businesses often engage in national or international commerce, so rapid communications are vital
to the response and success of the management. E-mail now occupies an important place in
corporate communications as a basic electronic tool for messaging between individuals, groups, or
offices. However, more complex data management that provides a competitive advantage can be
derived from more powerful and reliable tools such as Lotus Notes or Lotus Domino. These
applications can establish Web-enabled information repositories and complete service request tracking systems. As a simplistic description, Lotus Notes is a large proprietary networking system, for diverse industries in manufacturing, dairy, personnel services, retailing, fast food, and entertainment.

Some software tools work in conjunction with one another. Communications systems might wed Lotus Notes or Domino server software to an on-demand, automated fax-back system, which are capable of handling an extremely heavy volume of fax requests and responses. The automated fax-back system is capable of capturing fax images and can create records in a Lotus Notes database. There is great flexibility and complexity as these communications and database tools are combined. Great care should be given to analyzing the needs of the company, selecting the hardware and software necessary, and interviewing competent and innovative software systems developers.

**Reporting and Planning Systems**

Business requires clear and concise decision making and frequent reporting on project status to management and to peers; reports have become more visual in the last five years as graphics packages have grown more sophisticated. Software systems must be able to access, analyze, and develop accurate assessments for making strategic decisions. The resulting data must be easy to read and understand, as well. No marketing presentation is delivered without pages of plans, charts, graphs, and tables that represent the performance of the current marketing program in force. Marketing also means planning, and within the last few years, planning competencies have
expanded and gained much more accuracy. In particular, large projects with horizons of many years benefit from planning applications, such as Business Objects (www.businessobjects.com), which helps to set direction and timelines, milestone points, and overlap and down times. The better information can be controlled and manipulated, the better all business processes, including marketing, will perform.

**Optical Scanners**

The old grocery counter scanner has been pressed into new and varied services in manufacturing, in the medical industry, in the aircraft industry, in lumbering, in measurements of all kinds, and by the U.S. Postal Service. Officially called **Optical Character Mark Reader (OCMR)**, or more simply optical mark scanners and readers, this equipment usually by passing a wand over a preprinted bar code eliminates manual data entry. This electronic tool saves many hours in pricing and counting inventory, coupons, or contest entries. Scanners are compound photoelectric sensors that use multiple surfaces to provide additional information and can cover a larger area than typical photoelectric sensors. An object passing between the transmitter array and the receiver array will block several beams of a linear bar code. The number to of beams blocked, the spacing between each bars, or each bars’ width, length, height, or diameter can identify this object. Optical scanners often dispense coupons or discounts at checkout on store, sale, or competitor brands similar or equivalent to items purchased in this transaction. The scanner reads the code, locates the equivalent product and size, and then prints a coupon on the back of the receipt. The sale coupon is intended for use at the next shopping opportunity, and the procedure
is quick and easy, both for the consumer and for the attendant. More uses in different sectors that will involve the cash register are expected, and retailing creativity will enhance the potential for the optical scanner.

Data from optical scanners assist marketers in increasing performance by tracking results of sales promotions, by counting units sold, by checking prices, by verifying identities, or by hundreds of other marketing and operations considerations. Wal-Mart has used optical scanning and satellite data transmissions as a powerful marketing weapon. This system constantly records unit sales to update inventories, check product sales movement, and revise pricing as needed; these data are then transmitted by rooftop satellite dishes, and inventory replenishment begins. Financial data are recorded, and adjustments to pricing, product mix, and selection are made. While optical scanner systems serve all functions of the retail or wholesale activity (financial, operations, and marketing), it is difficult to argue that the marketing and sales functions are aided the greatest.

**Fax-Back Systems**

An older reproduction system, the facsimile, has been reborn to serve the distributed information systems, more so than on a one-on-one transmission. Although slower and probably not as neat as an e-mail message or an e-mail attachment, faxing systems can be less costly when the marketing situation requires a high volume of repetitious information. If the marketer must support a number of salespersons, particularly nationwide, a fax-back system makes much sense. Again, the salesperson needs to access an information repository that contains parts inventory,
units available, or as in the previous pharmaceutical example, drug interactions or side-effects on which perhaps only the pharmaceutical company has accurate records.

Electronic Marketing Case History

On-line Knowledge Management—Bayer’s Information Gateway

Bayer Pharmaceutical. A world-class drug manufacturer with a reputation for first-class support. In order for Bayer to maintain a high profile in a competitive industry, they must constantly strive to be innovative, and caring. And to do this, they have to be right on the front lines of support for their products, many of which are used in life and death situations by healthcare professionals.

Enter Bayer’s Clinical Communications Department. This area of the Sales and Marketing division employs a number of Drug Information Specialists whose job is to provide support to Bayer’s customers. For example, physicians frequently require critical information about a Bayer drug while a patient is in the operating room. The problem is that a seemingly simple request can require a great deal of effort to fulfill.

In order to complete a call, a specialist gathers supporting information by combing through Bayer’s extensive library of information. Legal and regulatory concerns play an important role, since multiple individuals are required to carefully review the accuracy of each letter to be sent, and a record for each sent letter must be created. In addition, all of Bayer’s scientific data used in the process must undergo rigorous scrutiny before it can be provided to the public. When this
was largely a manual process, meeting and exceeding the expectations of the caller was a monumental task, since a typical response often took hours, or even days, to complete.

There had to be a better way. And so, Bayer decided that an electronic solution was required, and called on a cadre of trained computer specialists to build the Information Gateway. The system’s primary objectives would be:

- To quickly identify the information the specialist needed to complete the call;
- To package that information into a single electronic document; and
- To retain a complete record of the request and the response for regulatory and marketing follow-up.

But there was a problem. According to Sherlyn Celone, Bayer’s Manager of Marketing Communications, “we knew we had a major problem since the information was everywhere, and it took too long to find it. With Bayer hiring people left and right, it was only a matter of time before it snowballed. We had to do something.” As it turned out, some information was contained in massive medical tomes, some in cabinets filled with documents, and some on hand-written sheets of paper. Other information was on proprietary computer systems within Bayer’s information domain. And just in its inchoate stages were masses of disparate information accessible only via the Internet. All this information had to be available from a single resource, and easily packaged for Bayer’s customer, quickly, easily and securely. The only viable solution could be an Intranet knowledge management system.

Why? Because, Intranets help Bayer’s specialists by providing a consistent browser-based
interface, and, unlike the Internet, are completed isolated from, but allow access to, the Internet (a requirement of the U.S. FDA). Knowledge management systems logically organize information resources. In the case of the Bayer’s Information Gateway, the Bayer specialists can scan for items of interest, identify important details, and even navigate to non-Bayer sites. Links to valuable medical data sources on the Internet help the specialist to find relevant information instantaneously. They can also search for information by keyword, using a powerful search engine. Linking to multiple data sources from one interface allows the specialists to traverse their world of information faster than ever before.

So how does the information get packaged and delivered in an age of technological heterogeneity? Well, the Information Gateway sports a slick packaging interface called the Information Gateway Assistant that sits on each specialist’s desktop. This “shopping cart” style document repository allows them to select documents anywhere (even from their word processor, not just in their browser!) to create a single digital package (an Adobe PDF document, for the technically inclined). In this way they continue their thought process while simultaneously preparing an information package for the recipient. Compare this to manually compiling a stack of information, and it’s easy to see the benefit.

The Assistant, in turn, is directly connected to Bayer’s E-mail system, fax server, and high-end printers (for those recipients who are electronically challenged). Additionally, as the document wends its way along the information highway, the Assistant creates a complete record in a powerful Oracle reporting database. Bayer uses this data warehouse not only to keep track
of these transactions but also to monitor areas of concern in the health care community on behalf of government agencies as well as Bayer’s own Sales and Marketing department.

According to Ms. Celone, “the process of responding to calls has been greatly enhanced. And the predictive analysis that the team can conduct also has been improved, allowing the group to better direct resources based on customer need.” While the outside customer does not see the system, the business impact has been equivalent to many market-facing systems. The business process has become more closely integrated with customer demands, and the system delivers its product with increased speed and reduced associated costs.

The overall result? Bayer can provide potentially life-saving information in a timely manner to the people who need it most. And this is how Bayer Pharmaceutical lives up to its credo, “Changing the world with great care.”

(Personal interview with Sherlyn Celone, Bayer’s Manager of Marketing Communications)

In each case, the salesperson dials into a bank of fax machines that then query the database to return a hard copy fax to the field salesperson. Several dedicated fax systems can be introduced into the communications infrastructure; two of these faxing networks are FAXback and RIGHTfax. As with any application or system, there are pros and cons in selecting the appropriate software. Marketers work closely with the vendor representative to understand these factors and then develop plans to minimize the disadvantages and maximize the advantages of the correct system. Again, diligent preplanning will eliminate major surprises that confront the marketer.
Web Portal Sites

The online services businesses have discovered a new feature to develop and promote in their efforts to expand their audiences. The new offering is called a portal, or metasite, which has been described as an all-in-one Web super site; the portal is the entry point that offers a broad array of resources and services, such as e-mail from the Web site, forums, a variety of search engines, news broadcasts, personal Web pages, and online shopping malls. As CNNfn online news service reported:

Web portals are becoming more important as companies strive to become the “first stop” for people online. As the Web grows, users are faced with a baffling array of new Web page offerings. Internet companies believe users will welcome a jump-off point with links, both old and new, to sites related to their individual tastes. In addition, many portals hope to become centers for Internet commerce, a potentially lucrative enterprise as more people begin to shop online.

Portal services are very attractive to online retailers and other marketing-oriented companies. Most portals require you to register and, in doing so, provide demographic information. Portal firms can then use that specific information by selling targeted advertising geared to each individual user. (Shultz 1999)

American Online (AOL) is still the largest and most successful portal in history. Consumers may view a Web portal as a one-stop service to access the best on the Web. A
marketer might look at advertising exposure on several portal sites as he would analyze programming on a television network. If the portal programs to a younger, middle-aged, or mature adults markets, this format might match well to the marketer’s product or service promotional plan. Portal development is being formulated even as this book is being written, so many innovative features will satisfy market needs and desires that cannot be forecasted at this time.

As noted, AOL is creating a two-tier portal—one with fewer features and one more heavily laden perhaps with resources such as personalized news, choices of e-mail options, free Web pages to users, and smarter search engines. There is much speculation as to what features are being considered or being beta tested. The well-known search engines, Infoseek, Excite, Lycos, and Yahoo!, already are offering e-mail and personal home page at the following addresses:

America Online, www.aol.com

ChickClick, www.chickclick.com

ESPN, http://ESPN.SportsZone.com

Excite, www.excite.com

HotBot, www.hotbot.com

Infoseek, www.infoseek.com

iVillage, www.ivillage.com
New portals/metasites include:

Everything-but-the-Kitchen Sink

Where Everybody Knows Your Name

AOL Lives!

Build Your Own Portal (a portal of the future)

The Limitations of Electronic Marketing Resources

With every improved business practice or convenience, there is a tradeoff, usually price. Because of the tradeoff, the improvement must be proven superior, faster, less risky, or of some significant betterment than the old way of doing things. Marketing technology is no different. Cost-benefit analyses are usually conducted as a starting point in determining whether the cost of the proposed new marketing system can save money over the current system or systems involved. Much as mergers and consolidations are affecting the media, banking, and airline businesses, hardware consolidation fortifies cost-savings and staff-economies by central or
regional media centers. In previous times, connections were slow, servers were slow, and hard drives were small. Technology is expensive, but the rewards are now greater than ever.

The marketer can lay off some of the risk by investigating her options in scalable software and hardware or other high tech equipment for future growth. Careful choice of electronic tools and vendors that are knowledgeable in marketing, inventory, and fulfillment systems will be worth the effort in improved practices. Scalability has become an important, even critical, issue in systems’ specifications because businesses have found that prior equipment purchases cannot be expanded and, therefore, are seemingly worthless. Wise questions to ask in systems’ negotiations should include the expansion capabilities as a business grows and interchangeability of hardware components should different manufacturers or vendors recast in the future. The marketer should be aware of which systems can operate which software applications, as well. While no one has the future firmly in grasp, partial success is derived from asking the right questions and recognizing the right answers.

As recognized from the early days of computing during the late forties and throughout the fifties, managers and programmers recognized the value of quality data. A familiar saying, Garbage in, garbage out, articulates the point that poor or inaccurate data are processed into poor decisions. As marketing plans are guardedly developed and executed, marketers are equally cautious in formulating the program’s data with an eye on accuracy and timeliness in retrieval. Marketers further recognize that systems’ successes do not happen magically. As systems can perform more functions, communicate with more offices and people, and work twenty-four
hours each day, these systems are becoming more and more complex. To achieve maximum productivity, marketing-savvy companies stress training and retaining qualified, competent people. Training is to your staff and associates as maintenance is to your machinery. Without training people can become stale and unchallenged; without scheduled maintenance of parts replacement and lubrication, machines will fail. Some resourceful companies spend handsomely on training to retain their best employees. Given the sophistication of the software packages (and even the video games), serious instruction in optimal operation is beneficial to the entire company, including marketing and MIS/IS/IT departments.

Another significant problem in electronic marketing resources, at least in the short-term, is the low penetration of the World Wide Web into American households (and businesses), and presumably the households of the world. Connectivity costs money, usually a monthly fee varying from $15.00 to $60.00, depending on the level of services, the type of connection (for example, a fiber optic connection is more expensive), and the type of promotional program the user signed up for. Currently a PC and modem are also required for Internet access although WebTV and other set-top units have been introduced and are less expensive than the PC equipment. At present, less than one home in four (actually 23 percent in 1998 and expected to top 40 percent by 2000) has access to the Internet. While that might be discouraging compared to 98 percent penetration of broadcast television and 69 percent penetration of cable television in the United States, in 1996 only five percent of the homes were connected. Therefore, the growth of Web access and its features has been extraordinary and is expected to escalate and then level.
off through the year 2010, as the members of Generation X begin to mature comfortably in their mid thirties. Another short-term obstacle is the general lack of faith in financial transactions over the Web; business groups are concentrating on secure commerce activity spearheaded by Visa and MasterCard. For marketers and retailers, this Secure Electronic Transactions (SET) protocol had been promised for introduction for the past two Christmas seasons, and late deliveries in SET standards for the new online sales channel were blamed for soft holiday sales in 1996 and 1997, at least in the retailers’ minds. Acceptance of electronic commerce is proving varied according to industry. Computer equipment and accessories are popular among computer technicians and aficionados. However, clothing and other dry goods are lagging in sales. Marketers are learning that products or services purchased on price decisions as in commodities sell well; products bought for color, texture, or style are more difficult to merchandise. For international marketers, stumbling blocks could be the limitations on language laws and currency, possible cultural differences in the exchange process. The marketer must, therefore, be willing to take on the roles of financier, fashion buff, linguist, world traveler, and pop culture watcher.

The biggest problem, however, in understanding and balancing your electronic marketing requirements is communicating your real needs to your suppliers so that the proper trilogy—software system, hardware, and budget—is attained. This positive relationship begins with a marketer who honestly knows her business and the areas in which this business can be improved, and finishes with knowledgeable suppliers that become consultants and teachers to their clients, recommending the appropriate, not necessarily high commission, software and
hardware products to solve the client’s problem or situation. It is a rare but gratifying exchange that might last for decades, as long as each party performs as promised. This situation is the basis for relationship marketing, the most mutually beneficial and profitable association for both the client and supplier. Marvelous accomplishments can be attained when the chemistry between both is positive and respectful.

The Problems with the Web Site

As a practical, everyday communications tool, there are several significant obstacles to be aware of as a marketer integrates Web site activities into the marketing plan. The most commonly experienced Web-access problem, construed by the GVU Ninth WWW User Survey, is that of taking too long to download pages; this complaint was voiced by 64.8 percent of the study group. (1998) As modems are upgraded for speed or faster modems are purchased, Web pages are becoming more heavily laden with images, animations, scripts, programs, and plug-ins, all of which take extra time to download. In particular, retailers should know that 53 percent of respondents reported they left a Web site while searching for product information simply because the site was loading too slow.

Another complaint among consumers was the growing problem of broken links or dead Web pages. Although solutions for dealing with broken links or receiving a “File Not Found” are well known to Web designers (such as redirecting bad URLs to a search page), most sites do not seem to employ any technique for correcting these problems. Besides these operational issues, the content on the Web, such as the misuse of the Internet for business and the blatant postings
of pornography and other sexually explicit activities, is most controversial to many supporters of free Internet dialog and traffic.

What equipment does the user own to access various Web sites? As for modem speed, most Web users connect at 33.6 K, but more people are upgrading to 56.6 K. Almost a third (31 percent) plan to upgrade their speed in the next six months, and 17 percent plan to upgrade after already having upgraded over the last 12 months. In researching equipment used by the consumer, the most common piece of hardware owned is a printer, either black-and-white (44.4 percent) or color (62.8 percent). Following the printer is fax machines (27.9 percent) and scanners (34.4 percent).

The World Wide Web has also caused an impact in the customer service capabilities. Of course, the basic change is in the hypertext appearance, which presents a more attractive, fully graphical representation of whatever the marketer or advertiser wishes to display. The entire site atmosphere can be enhanced with color, motion, or sound clips that might reduce the level of dissatisfaction should a disgruntled customer be the viewer. It is better, though, to head off potential problems before they happen, and orders or inquiries to Web purchases can be acknowledged automatically via e-mail or via a fax-back system. In fact, a friendly Web site, full of content, might be the only factor separating a commodity-type product such as office supplies or agricultural items. Electronic marketing may be the only supporting service that sets the marketer’s organization or product apart from the competition.
Summary

Marketing programs are only as good as the performance of its tools and components. While marketers have at hand the most powerful, interactive communications vehicle presently available, excellent planning and execution of the best electronic resources will not mitigate poor marketing planning. The marketer must know what the proper roles are for various types of communications systems, such as e-mail and Lotus Notes; for database software, such as Oracle and Microsoft Access; and for dedicated networks, such as company intranets and extranets; the marketer must also know the functions of the multipurpose Internet. Technology changes quickly as evidenced by Netscape Navigator 2.0, 3.0, 4.0, and now the 5.0 releases and by Netscape Communicator, as well. Some industry observers say the race is on between Netscape and Microsoft to produce new models or issues mirroring the automobile industry.

You as a wise marketer will stay on top of new electronic marketing tools development by reading industry publications, visiting industry trade shows, and touring facilities where the tools are already in place. Marketers are an odd bunch; when a program works well, marketers are hesitant in sharing a program’s success. Therefore, you the marketer must seek out these magic programs through inquiring among suppliers and associates in noncompetitive firms. Marketing intelligence works, no matter whether you, your assistant, or a research firm performs the activities. As has been discussed, some competitor always has a better execution or better tool than you. It is up to you to level the playing field by being more persistent or more innovative than the industry.
Key Terms

Back-end system  Balloon  CD-ROM
Data warehousing  Extranet  Emoticons
Enterprise reporting  Facsimile (Fax)  Front-end system
Graphical User Interface (GUI)  Hold statistics technology  Hot spots
Interactive kiosk  Intranet  Metasite
Mosaic  Mouse over  Optical Character
Mark
Reader (OCMR)  Optical scanner  PINE
Robot shopping agents (bots)  Smart cards  Transfer technology
Videography  Web portal  Web master
WebTV

Questions and Exercises

1. As a written exercise, define the following terms:

a. software  b. hardware  c. Intranet
d. extranet  e. data warehouse  f. data mining
g. front-end application  h. back-end application  i. enterprise reporting
j. PINE

2. As an inventory manager of a medium-sized hospital supply company, you are approaching an important date, the annual inventory of merchandise. In the past, you have used an outside
supplier to perform this task, but the supplier’s charges have grown rapidly over the last four years. You wish to investigate buying or leasing your own database resources. Outline the steps you would take in developing a cost/benefit analysis to compare the costs of using a supplier, leasing equipment, and buying your own hardware and developing software systems. Input your projections into an Excel spreadsheet for the financial officer to review.

3. After reading this chapter, what would be the three and only three electronic marketing resources you would choose for operating your bicycle manufacturing company? Assume you are in a startup situation and the company can afford only three resources. Justify each resource in a one-page memo to your stockholders.

4. If you operated a virtual storefront selling wildlife and scenic photography calendars and prints of various sizes, would you allow robot shopping agents to enter your site? Consider your products to be medium priced. Write an e-mail explaining to your brother-in-law and partner what the advantages and disadvantages of your decision may be. Would you change any of the marketing mix elements (raise or lower your prices or cut or increase promotional elements, for instance) depending on your decision? Fully justify your marketing decision.

5. You are thinking about opening a virtual storefront to sell pop culture T-shirts internationally. These T-shirts will be colorful to be displayed on a Web site and will feature timely slogans or headlines in English. This will be a part-time venture, so the site must operate almost autonomously. What topics should you be investigating to provide excellent service to your purchasers? List and explain these topics as to how you will operate the twenty-four-hour site.
6. In the Bayer Pharmaceuticals case history, what other means of communications could the field sales staff have considered in gathering accurate information to supply to physicians? Make a list of alternative communications channels and technology to accomplish this same goal. For each alternative, list the advantages and disadvantages to either the physician, the salesperson or the Bayer Corporation. Submit this list to your instructor acting as your sales manager.

7. In the Introduction to this chapter, a statement was made that, “Interactivity produces gratification for the user.” Interpret this statement from the marketer’s and consumer’s viewpoints. Cite examples as you write a one-page explanation of the concept for the sales staff.

8. One of the problems of Web operations is maintenance of the existing site. The Web site should be continually evolving, updated frequently with fresh content and product or service offerings, and consistently accessible by the server. The tasks and skills of a Web master were discussed in detail in the text. Should this Web master be a staff employee (subject to using his singular style and subject to stagnation of new ideas and promotions) or should the Web master be an outside supplier (subject to longer service or repair times or subject to higher charges because of only occasional service)? Consider the advantages and disadvantages of both situations and be prepared to discuss the Web master scenario in a class discussion.

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